2002-2004 Large Pelagics Intercept Survey

Statement of Work

TABLE OF CONTENTS

1. INTRODUCTION

The Large Pelagics Survey (LPS) of the National Marine Fisheries Service (NMFS) is actually a pair of independent, but complementary, surveys that are conducted for the purpose of estimating catches and landings of "large pelagic fishes" by rod-and-reel or handline fishermen. Although the LPS was developed primarily to monitor recreational hand-gear catches of Atlantic bluefin tuna north of Cape Hatteras, it also monitors recreational catches of other large pelagic species in this area. The LPS specifically covers offshore hand-gear fishing for tunas, billfishes, swordfish, sharks, dolphins, and wahoo. One component of the LPS is a Telephone Survey which interviews operators of private boats, charter boats, and headboats to collect data on offshore fishing effort directed at one or more of these large pelagic species. The other component of the LPS is a dockside Intercept Survey which obtains catch data from boat operators who just completed an offshore fishing trip directed at large pelagic species. The Large Pelagics Telephone Survey (LPTS) provides estimates of the numbers of directed trips, and the Large Pelagics Intercept Survey (LPIS) provides estimates of the mean species-specific catches or landings per directed trip. Expansion of the estimated mean catch per trip by the estimated number of trips provides an estimate of the total catch of a particular species.

This work statement describes the minimum technical requirements for conduct of the Large Pelagics Intercept Survey in 2002 through 2004. It also provides the minimum requirements for additional at-sea observer, biological, economic, and sociocultural data collections which may or may not be added as supplements to the base LPIS in each year. The optional Large Pelagics Observer Survey is an independent survey of headboat catches. The Large Pelagics Biological Survey is an independent dockside survey of fish cleaning stations to obtain lengths, otoliths, and tissue samples from large pelagic fishes caught with rod and reel or handline. The optional Large Pelagics Economic Intercept Survey interviews anglers who fished on boats intercepted by the base LPIS to collect data needed for estimates of the economic values of species-specific fisheries or the economic and/or sociocultural impacts of changes in fishery regulations.

1.1 Background

The National Marine Fisheries Service (NMFS) is committed to establishing and maintaining baseline assessment data needed to characterize catch, catch per unit fishing effort, and biological information for Atlantic bluefin tuna, as well as other Atlantic tunas, billfishes, swordfish, and sharks. The gathering of such information serves to fulfill requirements of the International Commission for the Conservation of Atlantic Tunas (ICCAT), as well as obligations of NMFS relative to Fishery Management Plans for billfishes, swordfish, and sharks. Many large pelagic fishes are seasonal inhabitants

of the northeast continental portion of the Atlantic Ocean's Large Marine Ecosystem, where they are subject to intense recreational fishing. Therefore, it has been necessary to design and conduct surveys of recreational fishing directed at the capture and harvest of large pelagic fishes.

In 1986, the NMFS began to work cooperatively with the Virginia Institute of Marine Sciences and the New Jersey Bureau of Marine Fisheries to conduct a specialized Large Pelagics Survey (LPS) in Virginia through Maine. The original LPS was a set of surveys designed primarily to estimate the total **annual** recreational landings of Atlantic bluefin tuna and other associated large pelagic species. A dockside, mark-recapture survey intercepted boats at marinas and gas pumps to estimate the total number of participating boats; a telephone survey interviewed operators of participating boats to estimate the mean number of fishing trips per boat; and an access-point intercept survey intercepted boats returning from completed fishing trips to get catch data needed for estimates of mean catch per trip. The resulting estimates from the independent surveys were combined to obtain estimates of total annual catches and landings by species.

In 1992, NMFS was charged with managing the recreational fishery for schooling Atlantic bluefin tuna by establishing quotas by size category and closing fishing in each category when the designated quota was reached. This necessitated the development of a defensible, in-season quota management system to monitor the recreational catch of bluefin tuna by size category from Cape Hatteras to the Gulf of Maine. Consequently, NMFS re-designed the LPS and increased sampling levels to generate seasonal estimates of fishing effort and catch that could be used for this purpose. From 1992 through 2000, the LPS focused on estimating **weekly** catches of small- and medium-sized bluefin tuna for quota-monitoring purposes. However, during that time it continued to provide annual estimates of catch for giant bluefin tuna, other tunas, billfishes, swordfish, and sharks.

In 1995, the LPS was simplified to consist of only two components – a telephone survey of participating boats and a dockside intercept survey boats returning from large pelagic fishing trips. The telephone survey started using lists of charter and private boats with the new NMFS Bluefin Tuna permit as sampling frames to collect the data needed to estimate the total numbers of large pelagic fishing trips by permitted boats. Data on the permit status of boats intercepted by the dockside intercept survey were used to estimate the proportions of total large pelagic fishing trips made by permitted and non-permitted boats. These estimated proportions were used to adjust telephone survey fishing effort estimates upward to account for trips by both permitted and non-permitted boats. The traditional mark-recapture survey component of the LPS was discontinued, because accurate estimates of fleet size were no longer essential for unbiased estimation of total trips.

In 2001, the NMFS decided to cease in-season management of the recreational fishery for small and medium bluefin tuna and chose to adopt an annual management strategy based on adjustments to bag limits, size limits, and restricted fishing seasons. Therefore, it is no longer necessary to update cumulative bluefin tuna catches on a weekly basis. Starting in 2002, the telephone and intercept survey components of the LPS will be re-designed to generate **monthly** estimates of catches and landings of bluefin tuna by size category, as well as other large pelagic species.

This Statement of Work (SOW) describes the procedures to be followed for conduct of the base intercept survey of the LPS in 2002-2004. This LPS component shall be called the Large Pelagics Intercept Survey, or LPIS. Also included in this SOW are specific procedures to be followed for conduct of several additional field data collections that may be required to supplement the LPIS.

2. GENERAL REQUIREMENTS

2.1 The Survey Tasks

The 2002-2004 Large Pelagics Intercept Survey shall consist of one or more of the following components:

1. **Large Pelagics Intercept Survey (LPIS)** to collect data needed for monthly estimation of (a) the proportion of fishing trips directed at large pelagic species that are taken by charter and private boats not included in the Large Pelagics Telephone Survey sampling frames and (b) the average catches of different fish species per charter or private boat trip directed at large pelagic species. If ordered in 2002, the LPIS would only cover fishing for large pelagic species in the Northeast Region (Virginia through Maine). In 2003 and/or 2004, NMFS may choose to extend the LPIS to cover the Southeast Region (Texas through North Carolina). Therefore, conduct of the LPIS in the Northeast and Southeast Regions shall be treated as separate options, or tasks, as follows:
   a. **LPIS in Northeast Region [CLIN 100A, 200A, 300A]**
   b. **LPIS in Southeast Region [CLIN 200B, 300B].**

2. **Large Pelagics Observer Survey (LPOS)** to collect data needed to estimate the average catches of different fish species per party/headboat trip. If ordered in 2002, the LPOS would only cover party/headboats fishing for large pelagic species in the Northeast Region (Virginia through Maine). In 2003 and/or 2004, NMFS may choose to extend the LPOS to cover party/headboats fishing for large pelagic species in the Southeast Region (Texas through North Carolina). Therefore, conduct of the LPOS in the Northeast and Southeast Regions shall be treated as separate options, or tasks, as follows:

a. **LPOS in Northeast Region [CLIN 101A, 201A, 301A]**
b. **LPOS in Southeast Region [CLIN 201B, 301B].**

3. **Large Pelagics Biological Survey (LPBS)** to collect additional lengths and weights, as well as hard parts and tissue samples, of bluefin tuna and other large pelagic fishes at fish cleaning stations. If ordered in 2002, the LPBS would only cover large pelagic fishes landed in the Northeast Region (Virginia through Maine). In 2003 and/or 2004, NMFS may choose to extend the LPBS to cover large pelagic fishes landed in the Southeast Region (Texas through North Carolina). Therefore, conduct of the LPBS in the Northeast and Southeast Regions shall be treated as separate options, or tasks, as follows:

a. **LPBS in Northeast Region [CLIN 102A, 202A, 302A]**
b. **LPBS in Southeast Region [CLIN 202B, 302B]**.

4. **Large Pelagics Economic (and/or Sociocultural) Intercept Survey (LPEIS)** to collect economic and/or sociocultural data from anglers on charter or private boats intercepted by the LPIS. If ordered in 2003, the LPES would only cover the Northeast Region (Virginia through Maine). In 2004, NMFS may choose to order the LPEIS in the Northeast Region (Virginia through Maine), the Southeast Region (Texas through North Carolina), or both regions. The NMFS may choose to order the intercept component or both the intercept and follow-up components in any given year for a specific region. Therefore, conduct of the LPEIS intercept and follow-up telephone components shall be treated as separate options, or tasks. In addition, conduct of either component in the Northeast Region shall be treated as a separate option, or task, from conduct of that component in the Southeast Region as follows:

a. **LPEIS Intercept Component in Northeast Region [CLIN 203A, 303A]**
b. **LPEIS Intercept Component in Southeast Region [CLIN 303B]**
c. **LPEIS Follow-Up Telephone Component in Northeast Region [CLIN 204A, 304A]**
d. **LPEIS Follow-Up Telephone Component in Southeast Region [CLIN 305B]**.

5. **Large Pelagics Vessel Validation Survey (LPVVS)** to directly observe the fishing status of charter and head boats selected for the weekly Large Pelagics Telephone Survey. If ordered in 2002, the LPVVS would attempt to independently validate fishing effort information reported in telephone interviews by boat operators. If ordered, the LPVVS would only cover for-hire boats fishing for large pelagic species in the Northeast Region (Virginia through Maine). This task shall not be ordered in 2003 or 2004. Therefore, it can only be ordered for the Northeast Region in 202 as follows:

a. **LPVVS in Northeast Region [CLIN 105A]**

Each of these tasks shall be treated as a separate option, or subtask, under the LPS Intercept Survey Contract. The methodology described in Section A.3 of this work statement shall be used for these tasks.

2.2 Data Collection

Proper conduct of the different survey tasks according to the specified procedures will result in the delivery of the data required to produce unbiased estimates of total fishing effort directed at large pelagic fishes and mean catch per unit effort by species. These estimates will be used to calculate accurate estimates of the total catches and landings of different large pelagic species by anglers fishing with rod and reel or handline . For each of the data collection components listed in Section A.2.1 and described in Section A.3, the data collection Contractor shall be responsible for performing the following general tasks:

1. Hiring, training, deployment, and supervision of interviewers;
2. Survey administration, including the determination of appropriate sampling goals, the proper selection of specific locations and dates for interviewing assignments to assure representative sampling, the determination of representative sampling distributions, the determination of the numbers of assignments needed to achieve sampling quotas and distribution goals, the appropriate deployment of interviewers to cover all selected interviewing assignments, the tracking of success in completing interviewing assignments, and the monitoring of success in reaching the sampling quotas and distribution goals;
3. Proper conduct of dockside and/or telephone interviews with boat captains, anglers, and/or crew members to collect specified data elements;
4. Validation of 10% of all dockside and/or telephone interviews through remote monitoring or through independent follow-up contacts with interviewees;
5. Checking and editing of every data element to correct coding or data-entry errors;
6. Preparation and delivery of summary tables for use in reviewing and evaluating the sampling results and the collected data;
7. Delivery of properly formatted, error-free data sets with all specified variables according to a specified delivery schedule; and
8. Review of survey results and preparation of proposals to improve survey procedures.

The data collection Contractor shall be responsible for collecting all data under this contract, as well as conducting all data entry and editing according to NMFS specifications. The data collection Contractor's responsibility shall include coordination of all component surveys with NMFS. Any re-allocation decisions will be made by the NMFS in consultation with the survey Contractor. All procedures, questionnaires, and

forms to be used for data collection tasks must be approved by the NMFS prior to implementation. Specific requirements pertaining to each Contract option for a specific LPS task are addressed in the appropriate sub-sections of Section A.3.

Tables in **Section B.2** show the minimum and maximum sample allocations for all of the different options. These tables show the numbers of completed interviews or interviewing assignments allocated to each data collection task in each state and sampling wave. For the LPIS, the sample sizes represent the number of completed interviews.

2.3 Interviewer Training

The Contractor shall be responsible for providing interviewer training for each of the different data collection tasks. Training manuals developed for this purpose shall become the property of the NMFS and copies of those manuals shall be required deliverables. Examples of previous LPS training manuals are included as Attachments A and B. Training programs shall be designed to assure quality and consistency of interviewing methods, questionnaire use, coding methods, and quality checks of data. Training for all interviewers for the LPI S shall include a general introduction to all of the component surveys, the data collection procedures, and the uses of the data collected. The introduction shall be sufficient to allow interviewers to respond to general questions regarding the LPS. The level of training and content of the training programs must be approved by the NMFS. Mandatory training requirements are summarized in Section 3 and are detailed in the attached interviewer training manuals. Training shall also include an introduction to the NMFS Marine Recreational Fishery Statistics Survey (MRFSS) and its relationship to the LPS. The Contractor shall coordinate with the NMFS to plan training sessions to allow participation by NMFS personnel. Copies of all training materials must be submitted for NMFS approval prior to implementation.

3. REQUIREMENTS

3.1 Large Pelagics Intercept Survey

The Large Pelagics Intercept Survey (LPIS) shall be conducted for the purpose of collecting data needed to determine on a monthly basis the average catches of different large pelagic species per boat trip. Catches of Atlantic bluefin tuna shall be recorded by specific size categories and catches of other large pelagic fishes shall be recorded by species.

The survey shall be accomplished by intercepting and interviewing charter boat and private boat operators who have just returned from fishing trips that included fishing for

large pelagic species. The Contractor shall compile a list of appropriate sites for dockside interviewing and shall differentially weight the sites in relation to their usage by boats that fish for large pelagic fishes. The Contractor shall follow specific procedures to group sites into site clusters which can be selected for interviewing assignments. Once sites have been appropriately clustered, the Contractor shall randomly select site clusters in relation to their known fishing activity. Site clusters shall be weighted by their total measured large pelagic species fishing activity, such that the ones with greater activity get sampled more frequently than the ones with lesser activity. Site clusters shall be selected independently for each month and day type (weekend or weekday) stratum, and dates for interviewing assignments shall be randomly selected within each temporal stratum. Interviewing assignments shall be distributed among geographic and temporal strata to assure the attainment of both minimum interviewing goals and distributions of interviews that are representative.

Specific procedures shall be followed to intercept and interview captains of returning boats at assigned sites. The questionnaire to be administered during interviews shall be developed by the Contractor in coordination with NMFS. The questionnaire shall be designed to obtain information similar to that shown in the draft questionnaire provided as Attachment C.

The data obtained from respondents shall be checked for errors and entered into SAS databases that are formatted in accordance with NMFS specifications. Coding and data entry errors shall be corrected and error-free data shall be delivered according to the specified delivery schedule.

3.1.1 LPIS Sampling

The LPIS is designed as an access-point intercept survey which obtains interviews with captains of boats returning from fishing trips that included fishing for large pelagic fishes. The objective for sampling shall be to determine sites where boats return, randomly select a sample of site/date combinations for interviewing assignments, intercept a sample of returning boat operators at the assigned sites on the assigned dates, and collect data from boat operators that fished for large pelagic species. Sampling for the LPIS in 2002-2004 will be conducted according to a **three-stage cluster sampling design**, where:

1. a specific day and geographic area for returning boats will be selected in the first stage,
2. a cluster of fishing trips returning to that area on that day will be selected in the second stage, and
3. a subset of those trips will be sampled in the third stage.

Activities specific to proper conduct of sampling for the LPIS include:

1. Development and monthly maintenance of a comprehensive list of fishing access sites, such as marinas or boat ramps, where interviewers can readily intercept operators of boats returning from offshore fishing trips directed at large pelagic species;
2. Monthly revision of site-specific estimates of the expected daily numbers of private boat and charter boat fishing trips directed at large pelagic fishes by month and day type (weekend and weekday);
3. Monthly clustering of neighboring access sites as needed to form site clusters with total expected daily numbers of trips that exceed a specified minimum;
4. Determination of interviewing goals by state, boat type (private and charter), month, and day type (weekend and weekday);
5. Determination of numbers of interviewing assignments needed in each state/boat-type/month/day-type sampling stratum to reach stratum-specific interviewing goals;
6. Generation of monthly samples of site-cluster/date assignments for conducting boat trip interviews, using programs provided by the NMFS;
7. Matching of site-cluster/date assignments with interviewers; and
8. Tracking of interviewer progress in completing assignments and obtaining interviews.

3.1.1.1 Sampling Method

A comprehensive list of fishing access sites, such as marinas or boat ramps, shall comprise the sampling frame which will be used for the selection of specific geographic locations for interviewing assignments. The interviewing sites included in this list must be sites to which boats return from fishing trips directed at large pelagic fishes. This list of sites will be called the LPIS **"master site register" (MSR)**. The MSR will provide information on the geographic location of each site, and it will also provide estimates of the daily expected numbers of private and charter boat fishing trips returning to each site that were directed at large pelagic species. Location information for each site will include latitudinal and longitudinal coordinates, the county, the name of the nearest town or city, and any information needed to direct interviewers to the site. Estimates of the expected daily numbers of returning "large pelagic species" fishing trips at each site will be developed and updated separately for weekend days and week days for each month of the year. Whenever possible, these estimates shall be based on averages of actual counts obtained on prior visits to the site in the same month of a previous year. When prior counts are not available, then estimates should be based on a reasonable assessment of the number of boats using the site, the proportion that are used to fish for large pelagic species, and the relative frequency of trips by such boats at nearby sites where previous counts are available.

Prior to the first stage of sampling, individual sites in the MSR shall be grouped together as needed to form **site clusters** with reasonable total expectations of interviewing productivity. Sites with high expected numbers of interviews (more than 4 per day) shall remain unclustered, but sites with lower expectations of interviewing success (less than 5 per day) shall be grouped together with other nearby "low expectation" sites to form clusters with reasonable total expectations of interviews. Clustering of sites should attempt to raise the total number of expected interviews while minimizing the driving distance between sites. No more than three sites may be included in a given cluster, and the number of sites included in a given cluster shall be the minimum number needed to reach a total expectation of at least five returning large pelagic boat trips per day.

The grouping of sites into site clusters, the assigning of site clusters, and the allowing of interviewers to visit more than one site per assignment are new to the LPIS. In previous years, individual sites were not grouped together and interviewers were only assigned to one site per interviewing assignment. The interviewer was not allowed to visit any other neighboring sites even if there were no fishing trips returning to the assigned site. This traditional one-site-only approach has led to many assignments over the years on which interviewers failed to find eligible respondents. The NMFS hopes that this change allowing the coverage of multiple sites per assignment will increase the number of interviews obtained per interviewing assignment.

Each site, or site cluster, shall be categorized according to its **total expectation of eligible interviews** and assigned a weight based on that categorization. The relative weight of each site or site cluster will determine its probability of selection in the random draw conducted as the first stage of LPIS sampling. This probability-proportional-to-size (PPS) approach assures a relatively high level of interviewing productivity because the "high expectation" sites, or site clusters, will be selected more often than the "low expectation" ones for interviewing. Because the NMFS will be using new estimation methods that will take the PPS sampling weights into account, it will be possible to calculate unbiased mean catch per trip estimates from the LPIS data.

In order to illustrate how the selection probability of an individual site, or site cluster, would be calculated, Table1 shows a hypothetical distribution of sites among interview expectation categories. To calculate the selection probability of a single site, or site cluster, in any given category, one must divide the weight assigned to that site by the total of the weights assigned to all available sites. For the example distribution of sites in the next to last column of the table, the total of the site weights is obtained by summing the products of the number of sites and individual site weights for all activity categories represented. In this example, the total of the individual site weights is 240. The calculated individual site selection probabilities for this example are shown in the last column of the table.

Table 1. Site interviewing expectation categories, individual site weights, an example distribution of sites by category, and individual site selection probabilities for that example.

Site Interview Expectation Category	Range of Expected Large Pelagics Fishing Trips (Number of returning boat trips per day)	Individual Site Weight	Number of Sites in Category (Example)	Individual Site Selection Probability (Example)

The SAS program to be used for drawing site/date assignments under this method will be supplied to the Contractor by the NMFS at least two months prior to the first month of interviewing. This program will draw sites using systematic sampling of a list of sites ordered by county and sorted randomly within counties. Each site will be replicated in the list as many times as needed to reflect its relative probability of selection. The number of replicates of each site will be equal to two times the weight assigned to the site. For the example shown on the next page in Table1, the list will include 5 entries for each category 1 site, 13 entries for each category 2 site, 21 for each category 3 site, and 29 for each category 4 site, and 37 for each category 5 site. The complete list of replicated sites will be ordered by county and randomly sorted by site within counties. The replicate entries of the same site remain clustered together within the random sorting of all sites in a county. For each round of site sampling, a sampling interval *n*, equal to the size of the total list divided by the number of site assignments to be drawn, will be used and systematic sampling of the list will start at a randomly selected start point between 0 and *n*. The site sample will then be drawn by selecting every *n*th entry on one complete pass through the list. If there are any sites that are replicated in the list more than *n* times the number of available assignment dates, they will be removed from the list prior to the draw and automatically selected for the maximum number of times. The remaining site assignments would then be drawn from the remaining list of sites after adjusting the sample size and recalculating the sampling interval.

The site sampling program will be set up to draw a specified number of assignments in three rounds – **fixed, flexible, and reserve assignments**. Each selected site assignment will be assigned a unique control number which will reflect the round in which it was selected. Site assignments will be prioritized according to the round in

which they were selected. Therefore, priority should always be given to issuing and completing assignments drawn in earlier rounds over assignments drawn in later rounds.

Once a given site, or site cluster, has been drawn for an interviewing assignment on a randomly selected day, then an interviewer should visit the site or cluster of sites, determine an appropriate strategy to maximize opportunities for intercepting returning boats at those sites, and follow that strategy to obtain as many interviews with eligible returning boat captains as possible. [Specific procedures for the second and third stages of LPIS sampling are provided in Section 3.1.2.3]

3.1.1.2 Sampling Frame

For each state, the NMFS will provide the Contractor with a list of fishing access sites, such as marinas and boat ramps, where boats are expected to return from fishing trips that targeted large pelagic fishes. This list, called the master site register (MSR) will serve as the site sampling frame. The MSR shall include information on expected charter boat and private boat fishing activity directed at large pelagic species. The Contractor shall be responsible for maintaining and updating the MSR for each month of Intercept sampling from 2002-2004. The site lists used for the 2001 LPIS are included as Attachment D**.** For the purposes of this survey, each marina or ramp to which private or charter boats return from fishing trips that targeted large pelagic species will define an access point, or "site", for interviewing. Neighboring marinas and/or ramps may be grouped together to form a larger “site cluster” prior to the actual draw of site assignments.

The Contractor will be required to convert the 2001 LPIS MSR into a format similar to the one used for the 2001 MRFSS Intercept Survey MSR. An example illustrating the format of the MRFSS MSR is included as Attachment E**.** LPIS sites should be matched with corresponding sites in the MRFSS MSR, and each site record should include both the old LPIS site code and the current MRFSS site code. Wherever the names of sites don’t match between the two site frames, the MRFSS site name should be used. Location information for each LPIS site should include latitude and longitude coordinates in addition to the county and street location information. The latitude and longitude coordinates for each LPIS site should be obtained if possible from the MRFSS MSR. Directions to each site should be compared with similar information provided in the MRFSS MSR and modifications should be made as necessary to make the information match.

Each site in the LPIS MSR should include a two-digit state code, a three-digit county code, and a unique four-digit site code, and the estimated fishing pressure by mode and month. Sites are uniquely coded and they should keep their same codes through time.

For example, a marina that changes its name through new ownership will keep the same site code. Codes for sites no longer in use should never be reassigned.

Location information should include the site name, 2-3 site description fields, and the nearest city or town. The description fields should include a street address, if available, and directions from a discrete starting point such as a recognizable landmark or intersection. An additional field may include the name and phone number of a primary contact person who supervises the site. Also, indicator variables should be used to code “hostile” or “inactive” sites.

The Contractor shall be required to record latitude and longitude information for each LPIS site. Currently the latitude and longitude coordinates of each site in the MRFSS MSR are combined in one character-string variable and both values are expressed as degrees and decimal-minutes, but this format is not conducive to mapping software, nor is it precise enough to locate the access sites. The Contractor shall convert this variable into separate latitude and longitude variables, a six-digit latitude code (degrees, minutes and seconds) and a six-digit longitude code (degrees, minutes and seconds). The NMFS recommends use of Global Positioning Satellite (GPS) units in the field for this purpose.

New variables which should be added to the LPIS MSR include information on whether the site is public or private access, the presence/absence of night fishing, whether the site is safe at night, whether a commercial fee is charged for using the site, if there is permission to interview, and if use of the site is affected by the tide. In addition, a date variable should be added to indicate when a modification to the site record was made (this must be updated whenever any variable’s value is changed - it provides a record indicating when a site descriptor/pressure was last modified). Also, variables should be added to indicate the number of head boats and charter boats present, and a variable (portcode) which may contain the Federal Information Processing Standards (FIPS) port code of the site if such a descriptor can be mapped to the access site.

The Contractor shall also modify the 2002 LPIS MSR to include large pelagic fishing activity estimates by month, day type (weekend or. weekday), and boat type (private boat, charter boat, or party/headboat). Since the 2001 LPIS MSR shown in Appendix 1 only provides one weekend fishing activity estimate and one weekday fishing activity estimate for each listed site, the Contractor will have to develop the monthly activity levels and partition them among the three boat types based on new data. As described in Section 3.1.1 above, “fishing activity” for the LPS MSR shall be the expected number of returning boat trips (private or charter) that fished for large pelagic species on an average “good weather” day. The daily expectations of returning boats should be ranked according to the scale provided below in Table 2.

The preliminary site lists and fishing activity estimates developed by the NMFS shall be

Table 2. Expected interviewing ranks for LPIS sites..

Range of Estimated Fishing Activity (Expected number of returning boat trips)	Site Interview Expectation Category
1-4	1
5-8	2

subject to review by the Contractor at least two weeks prior to the start of interviewing. The Contractor will review the activity estimates and recommend modifications to the NMFS if the Contractor believes that modifications may be necessary. The NMFS and the Contractor will develop the final estimates of daily large pelagic fishing trips through actual field evaluations of sites conducted cooperatively by a representative from the NMFS and the contractor field supervisor for each state. Two days should be devoted to this site evaluation task in each state.

Certain sites at which interviewers are not welcome by the site management should be coded as “hostile sites.” Hostile sites may be excluded from the sampling frame used for draws of interviewing assignments. Nevertheless, accurate fishing activity estimates must be maintained for hostile sites. The MSR should serve as a useful database for assessing the geographical and temporal distributions of fishing, hence it shall be used for determining appropriate distributions of interviews between day types and/or geographic subregions of states. activity. Such information is important for setting appropriate interviewing goals by county, month, and day type (weekend vs. weekday). Since sites will be selected for interviewing assignments in relation to their estimated numbers of fishing trips directed at large pelagic species, it is imperative that the MSR contain the most accurate and current fishing activity information possible. The MSR should not be static, since fishing activity is constantly changing. The Contractor shall update the MSR at least once each month based on information obtained on interviewing assignments or other visits to the sites during that month. The Contractor shall be responsible for maintaining and updating the MSR continuously during the period of contract award, and for providing updated site lists in SAS format on magnetic media to NMFS each month. The Contractor shall review and update the large pelagic

fishing activity estimates for each site before each month, and shall ensure that every site is physically inspected at least once each month to update the MSR, regardless of whether or not that site was assigned for interviewing. The site register updates must be completed before the assignment draw for each month, which generally occurs approximately three weeks before the month begins. This allows enough time to schedule assignments and inform interviewers of their schedule.

Interviewers shall be responsible for recording total fishing activity by boat type during each interviewing visit to each site. They should collect data on the total number of boats returning from fishing trips which targeted large pelagic species. In addition, they should obtain anecdotal information on fishing activity levels from marina operators, and boat ramp fishing shops. Newspaper and weekly magazine fishing reports also provide useful background. This information should be recorded on a separate **"Site Description Form" (SDF)** similar to the one used for the MRFSS Intercept Survey. A copy of the MRFSS SDF is provided in Attachment F. Data collected on visits to sites that are not assigned for interviewing during a given month should also be recorded on an LPIS SDF.

3.1.1.3 Sample Allocation

The goal of intercept survey sampling shall be to collect specified minimum numbers of private and charter boat interviews in each month in each state or multi-state stratum. The Contractor shall be responsible for ensuring that the temporal and geographic distributions of sampling within a given wave for each state and fishing mode are representative of the true distributions of marine recreational fishing effort directed at large pelagic fishes. Therefore, boat trip interviews should be distributed in a representative manner between the two months of the wave, across an entire month, among the different day types of each month, and among different geographic areas within each state.

Before generating a sample of site/date interviewing assignments, the Contractor must determine appropriate interviewing goals by state, boat type, month, and day type (weekend vs. weekday). The interviewing goals for each area, month, and boat type shall be set as minimum quotas by the NMFS. However, the distributions of those minimum quotas among weeks, between day types, and across geographic subregions of a state must be determined based on the most current data available on the expected distributions of large pelagic fishing trips.

The interviews are allocated by the NMFS among states, boat types, and months as follows:

1. a minimum number of samples per cell is distributed across all cells, and

2. the remaining samples are distributed among and within states according to the relative distribution of fishing effort.

The minimum samples per stratum are 20 interviews for private boat trips, and 20 interviews for charter boat trips. For the most part, additional interviews beyond the minimum levels are allocated among strata to reflect the expected distribution of fishing effort among those strata. Interview distributions for 2002 were based on the distributions of mean 1998-2000 LPS estimates of large pelagic fishing trips.

The approximate NMFS allocations of intercept survey interviews by state, boat type, and month for 2002 are shown in Section B.2 of this Request for Proposals (RFP). The NMFS will issue delivery orders providing the sample quotas by state, wave, and mode, at least one month before the start of the first month of 2002 sampling.

Within each month, sampling effort should be distributed evenly and monitored on a weekly and sometimes daily basis to prevent clustering of samples at the beginning or end of the month. This clustering could be caused by meeting the monthly goals too early in a month, or by trying to catch up and finish the quota at the end of a month. Monthly allocations of interviews are set as sampling goals and are not to be treated as monthly quotas. Deviation of the actual distribution of interviews from these monthly goals will not determine the Contractor's success in meeting minimum quotas set at the state/mode/wave level (Section B of the Solicitation). However, large deviations from the monthly distribution goals could potentially be considered by NMFS as an indication of poor performance.

In some low activity periods when fishing activity changes greatly between the first and last weeks of the month, it may be desirable to establish different interviewing goals for the first and second half of a given month. In order to accurately assess such abrupt shifts in fishing pressure within a month, information on such shifts should be added to the MSR on a site-by-site basis.

The interviewing goals for the week and weekend days of each month for each boat type should reflect the distribution of total angler fishing trips between the two day types. This distribution can be approximated by using the distribution of total weekend and weekday fishing activity estimates as categorized over all sites in the MSR for each month. NMFS will supply a SAS program that uses the weekend and weekday pressure ratings in the MSR to determine the appropriate distribution of interviews for each state/boat-type/month sampling stratum.

Ideally, the interviewing goals for different specified geographic subregions for each boat type should reflect the distribution of total large pelagic fishing trips among those subregions. As new estimation methods are implemented over the next few years, the NMFS may choose to further stratify sampling for some states into smaller subregions

to improve sampling distributions. This could also allow further stratification of catch and effort estimates if sample sizes are robust. The NMFS will work with the contractor to develop procedures to ensure that samples are allocated in a representative way among these smaller areas. The interviewing goals for private boats and charter boats in the different subregions of each state should be determined by using the distribution of total estimated fishing activity among subregions as reflected in the MSR for each month. If further geographic stratification of sampling is implemented, the NMFS will supply a SAS program that uses the total fishing activity ratings by geographic subregion in the MSR to determine the appropriate distribution of interviews among subregions.

The Contractor is responsible for determining the appropriate numbers and distributions of site/date interviewing assignments needed to achieve interviewing goals. An assignment is defined as a 2-8 hour effort to intercept and interview anglers at one or more sites in an assigned site cluster on an assigned date. Assignments should be drawn separately for each boat type, month, day type, and state (or state subregion). All of the assignments for a given month of interviewing should be drawn at least one month prior to the start of that month. The estimated large pelagic fishing activity in the master site list is used to determine the probability weighting for each site.
The Contractor shall estimate the number of sampling assignments required to obtain the interviewing goals in each geographic-are/mode/wave/month/day type/subregion sampling stratum and then draw assignments accordingly. Historical interviewer productivity data should be used for this purpose. Such data are available in past LPIS datasets located on the following web site:

http://www.st.nmfs.gov/st1/procurement/lpis_survey.html. .

The “user id” which must be entered is “demo” and the “password” is “ur2sea”.

The minimum number of assignments needed to achieve a specified sample of boat trip interviews for any given sampling stratum can potentially be approximated by dividing the product of the historical mean number of interviews per assigned site and the new mean number of sites per site cluster into the number of interviews established as the goal. For example, if the mean number of interviews per assignment over the last three years of the survey has been 5.5 for a given mode/month/day type/state stratum and the sampling goal is 200 interviews, then the minimum number of assignments needed would be calculated as follows:

minimum assignments = (200 interviews needed) / (3 sites/cluster) X (2 interviews/site)
= 33.3 (which rounds up to 34 assignments)

In any given year, the actual number of completed assignments needed to reach the sampling goal may be higher or lower than the minimum estimate based on historical

productivity, because levels and distributions of actual interviewing productivity can vary from year to year for a variety of reasons. Therefore, it may be necessary to draw some additional assignments above the estimated minimum needed to assure that all interviewing goals can be reached. On the other hand, drawing too many assignments can lead to a situation where interviewing quotas would be greatly exceeded and unnecessary costs incurred that NMFS would not cover. Therefore, it is important to balance the potential costs of too many assignments against the potential costs of too few.

Once the minimum number of assignments has been estimated, this number should be increased by some amount to set the number of assignments to be drawn and issued to interviewers. The site sampling program will draw this number of assignments in the first two separate rounds of sampling, with each site assignment coded to reflect the round in which it was selected. Assignments drawn in the first round will be **"fixed assignments"** that will given priority over the **"flexible assignments"** drawn in the second round. The fixed assignments must be completed even if interviewing goals are reached before the end of a month or wave. The flexible assignments should always be completed unless interviewing goals for the month or wave have already been reached. Therefore, once interviewing goals for a month or wave have been reached, the Contractor may cancel all remaining flexible assignments for that month or wave.

As indicated above, the Contractor shall assure a representative distribution of sampling throughout the two months of each sampling wave. Therefore, the Contractor should avoid drawing so many assignments that interviewing quotas are exceeded within the first month of a wave or within the first couple of weeks of a given month. Although such an approach would seem to be the most cost-effective one, because remaining assignments could be cancelled once quotas were exceeded, it would most certainly result in temporal distributions of interviews that would not be representative of true distributions of fishing effort. Excessive "front-loading" of survey sampling without any consideration for the accuracy of resulting sampling distributions will be considered unacceptable by the NMFS.

The Contractor should determine an additional number of assignments to draw for each month beyond the minimum number estimated to meet the sampling goals. These additional assignments can then be drawn during the third round of the assignment draw and held in reserve. If interviewing productivity is running lower than expected during the first two weeks of the month or during the first month of the wave, **"reserve assignments"** can be issued to provide additional sampling coverage for the remainder of the month or wave. Overuse of reserve assignments could also lead to temporal distributions of interviews that would not be representative of true distributions of fishing effort. Therefore, the number of reserve assignments should be minimized and should not exceed 1/3 of the total assignments (fixed + flexible) originally issued.

3.1.1.4 Sample Selection

After determining the numbers of assignments needed to meet sampling goals for each state/boat-type/month/day-type sampling stratum, site/date sampling assignments should be drawn using the program supplied by the NMFS. A copy of the site-selection program used for the 2001 LPS is included as Attachment 6. The sampling distribution and schedule shall be the responsibility of the Contractor and subject to approval by NMFS. The complete schedule of site/date interviewing assignments for each month must be submitted to NMFS prior to its distribution to interviewers. NMFS will have three working days to review and approve the schedule. Posting the sample assignment schedule to a web site, with email notification of the designated NMFS staff, would meet this requirement.

Sampling for the dockside intercept survey shall be stratified by boat type and day type for each month. Within each month, interviewing assignments shall be randomly distributed among sites in relation to the distribution of boat-fishing trips targeting large pelagic fishes. Assignments shall be distributed between weekend days and weekdays to target a weekend/weekday distribution of interviews that matches historical distributions of large pelagic fishing trips. The day assignment for each weekend or weekday site assignment shall be drawn at random.

The draw of fixed, flexible, and reserve assignments should be conducted at least one month prior to the start of a given month of sampling. The assignment sampling program will require inputs of the numbers of initial (fixed and flexible) and reserve assignments to be drawn for each state/boat-type/month/day-type stratum. Individual site/date assignments will be assigned a unique control number that reflects the type of assignment (fixed, flexible, or reserve). The control number can be used in tracking the ultimate outcome of the assignment. The control number should also be retained in the assignment summary file.

3.1.1.5 Sample Distribution

Once the sample of site/date interviewing assignments has been drawn for a given wave of interviewing, the Contractor is responsible for issuing those assignments to individual interviewers, tracking the completion of those assignments, and reporting progress made toward meeting the established interviewing goals.

The first step of implementing the sampling schedule is matching the schedule of assignments with individual interviewers. “Fixed” assignments should always be given priority over “flexible” assignments, and both fixed and flexible assignments should be given priority over any “reserve” assignments issued during the wave. Assignments

may be matched with interviewers to minimize travel costs, but all issued assignments must be covered regardless of interviewer proximity or availability. The staffing of interviewers must assure coverage of all fixed and flexible site/date assignments. Assignments should not be rescheduled to accommodate the preferred schedules of interviewers. If necessary, new interviewers must be hired and trained to assure that assignments are covered on the assigned dates. The interviewing staff should be geographically distributed such that coverage of all sites is assured. Under no circumstances should fixed or flexible assignments not be issued because "no interviewer is available" to cover the assignment.

During periods of low fishing activity, it may be feasible to schedule two assignments for one interviewer on the same day. Employment of this strategy would depend on NMFS approval of a workable implementation plan proposed by the Contractor. Such a proposal should attempt to minimize potential clustering effects in the temporal and geographic distributions of sampling.

Site assignments may never be changed once the assignment has been drawn. The date of an assignment may only be changed if the assignment has been cancelled due to "bad weather" or due to unexpected interviewer problems, such as illness or car trouble. If the weather on the assigned date is so bad that no fishing is likely to occur at the assigned site, then the assignment may be rescheduled to the same day of the week in a subsequent week of the same month. If the assignment could not be completed on the assigned date because the assigned interviewer became ill, had car trouble, or failed to visit the site for some other reason, then the assignment may also be rescheduled according to the same procedures. Interviewer failures to complete issued assignments on the assigned dates should be minimized and unreliable interviewers should be replaced as needed with reliable ones. Any failed assignments initially assigned to the last week of a month should be cancelled because they cannot be rescheduled to a later week.

Once interviewing assignments have been issued to interviewers, the Contractor's staff must monitor progress in completing those assignments. If a given interviewer quits, gets fired, or otherwise becomes unavailable, then assignments issued to that interviewer must be reassigned to another interviewer as soon as possible to assure that no gaps occur in the temporal and geographic distributions of sampling. If necessary, such re-assigned assignments may be rescheduled as described above for "bad weather" assignments. A record should always be kept of the originally assigned date of each assignment, as well as any subsequently rescheduled dates.

Some rescheduling of sampling assignments may be necessary to prevent overlaps with samplers working to conduct interviews for other surveys, such as the MRFSS Intercept Survey. The MRFSS Program staff will provide MRFSS assignment schedules to the LPIS Contractor prior to their issuing of assignments. In addition, LPIS

assignment schedules must be provided to the MRFSS Intercept Survey Contractor. NMFS will decide on procedures for avoiding potential overlaps in the scheduling of site assignments for the two intercept surveys.

3.1.1.6 Sample Monitoring

The Contractor is responsible for tracking and reporting the fates of all issued interviewing assignments in a timely manner. For each completed assignment, the Contractor is also responsible for reporting the number of interviews obtained for each boat type in a timely manner so that NMFS can monitor progress toward sampling goals.

The Contractor must track the success of interviewers in completing assignments so that any failed assignments due to “bad weather” or “interviewer problems” can be successfully rescheduled and/or re-assigned in a timely manner. A record must be maintained of any re-assignments of interviewers or re-scheduling of dates such that the fates of all originally issued assignments can be reliably tracked through to completion or cancellation. Reasons must be recorded and provided to NMFS for all failed assignments that are either rescheduled or cancelled. The Contractor should maintain a complete accounting of the fates of all assignments drawn for each wave. This information should be provided to the NMFS in a SAS dataset at the end of the wave in as “assignment completion file”.

The Contractor shall be responsible for taking appropriate control and administrative measures to ensure that the entire sampling quota set by NMFS is met for each and every sampling stratum. The Contractor shall require all interviewers to report the numbers of assignments completed and the numbers of interviews obtained on those assignments each week. Weekly tallies of assignments completed, rescheduled, or cancelled, as well as weekly tallies of interviews obtained for each boat type must be delivered to the NMFS Contracting Officer’s Technical Representative by Tuesday of the following week to allow accurate tracking of progress toward reaching sampling goals. Use of a web site to provide this information would meet this requirement. These weekly tallies should list, at a minimum, the date and site of each completed scheduled assignment, the sites visited on that assignment, alternate date if the assignment was rescheduled, and a summary of the number of interviews obtained in each fishing mode by each site visited.

During any given sampling wave, the Contractor should also track the distributions of interviews obtained relative to the established sampling goals by month, day type and state to determine whether or not it may be necessary to either issue reserve assignments to assure that quotas and/or interview distribution goals will be met, or to cancel remaining flexible assignments to prevent unnecessary overages. Tables

showing how interviewing distributions compare with the established interview distribution goals for each wave should be included in the final report.

Reserve assignments should only be issued in the last two weeks of a month or wave as needed to assure the attainment of minimum sampling goals. All issued reserve assignments should be tracked in the same manner described above for fixed and flexible assignments.

3.1.2 LPIS Interviewing Procedures

Interviewing procedures for the dockside intercept survey are similar to those described in the 2000 LPS Intercept Survey Interviewer Training Manual provided as Attachment 7. Data shall be collected in one-month waves. Interviewing assignments shall cover a 4-6 hour time period when boats are most likely to be returning to the assigned interviewing access points. Therefore, the exact time interval for interviewing may vary among states and among sites within each area. The NMFS shall provide recommended time intervals for interviewing in each geographic region and month to the Contractor at least three weeks prior to the start of sampling. During an assignment, the interviewer may move from one marina or boat ramp to another within the defined boundaries of the assigned site or site cluster. Interviewer movement should be with the intent to maximize sampling of returning boats at all access points within the defined areas. Under no circumstances should an interviewer move during an assignment to another marina or ramp that is not considered to be within the boundaries of the assigned site, or site cluster.

3.1.2.1 General Interviewing Requirements

The following procedures shall be used in obtaining catch information from returning charter boat captains or private/ rental boat owners who participated in the recreational hand-gear fishery for large pelagic species:

1. Each intercepted charter boat or private boat operator shall be screened to ascertain that he/she is the captain or owner of a boat that fishes offshore for large pelagic fishes (tunas, sharks, swordfish, billfishes, wahoo, dolphins, or amberjacks) and that his/her boat has just returned from such a fishing trip.
2. Each eligible boat captain, or boat owner, shall be asked to provide his/her name, the name of his/her boat, the HMS permit status of his/her boat (permitted vs. non-permitted), and the HMS permit category (charter, angling, or general). This information is critical to allow determination of whether the boat was included in the LPTS sampling frame for the corresponding month of sampling.

3. Each eligible boat captain, or boat owner, shall also be asked to provide the primary fishing area and target category (small bluefin tuna, medium bluefin tuna, giant bluefin tuna, other tunas or marlins, sharks, or other large game fish) of the completed fishing trip.
4. The captain or owner shall be asked to provide the following information: tournament participation, access type (private vs. marina or ramp), marina or ramp name, bait type, fishing method, gear type, number of anglers on board, number of lines in the water, number of hours fished, fishing location (name of fishing grounds, latitude and longitude, quarter-degree square, or ten-minute square), distance from shore, water depth, and water temperature. The NMFS shall provide a list of named fishing grounds (Attachment YYY) which can be used by interviewers as a reference for recording fishing location information.
5. The interviewer shall ask the intercepted captain or owner to allow him/her to examine, identify, count, and measure lengths of the fish caught and kept. The interviewer shall identify each available fish to the species level, measure its fork length to the nearest centimeter, and, if possible, identify its gender.
6. The vessel operator shall also be asked to recall the numbers of fish unavailable for examination that were caught and either kept or released. Total counts of kept and released fish shall be obtained for different size categories of bluefin tuna (young school, school, large school, small medium, large medium, and giant) and for the following pelagic fishes: albacore, skipjack tuna, yellowfin tuna, bigeye tuna, white marlin, blue marlin, sailfish, swordfish, wahoo, blue shark, mako shark, thresher shark, white shark, sandbar shark, dusky shark, tiger shark, hammerhead sharks, sand shark, false albacore, Atlantic bonito, amberjacks, king mackerel, and dolphins. The interview coding form shall be designed to allow interviewers to distinguish between those fish directly observed and those reported by the angler but not observed by an interviewer.

The minimum information to be obtained from each eligible captain or owner intercepted is as follows:

1. The name of the vessel operator, the name of the vessel, the NMFS HMS permit status of the vessel (permitted vs. non-permitted), the HMS permit category of the vessel (charter permit vs. angling permit), the HMS permit number, other vessel identifiers (state and/or U.S. Coast Guard registration numbers) and the LPS fishing mode category of the vessel (charter mopde vs. private mode).
2. The date, day, boat type (charter vs. private), access type (marina vs. ramp), access site (site code from LPIS MSR), fishing location, and target category for the intercepted trip.
3. The number of anglers on board and the number of lines in the water during the intercepted trip.
4. The numbers of fish kept and released by catch type (released alive, kept but unavailable for examination, or kept and available for examination), as well as by species, species group, and/or size category (bluefin tuna only) for the

intercepted trip.

5. The lengths and genders of available kept fish by species, species group, and/or size category for the intercepted trip.

The Contractor shall coordinate with NMFS in developing a standardized form, similar to the 2001 LPS questionnaire/coding form (Attachment C), for recording responses to the questions on the questionnaire. This form should be tailored to facilitate rapid editing and entry of recorded data.

3.1.2.2 Assignment Preparation

Each LPIS interviewing assignment shall specify a cluster of sites, a date, and a boat type. Interviewers must always start their assignments at one of the sites in the assigned cluster of sites, and they should give priority to interviewing operators of boats of the assigned type (charter or private). The starting time on the specified date for each assignment shall be determined based on the understanding that an assignment may last no longer than eight hours and that interviewers should be present at the corresponding interviewing access points at the time of day when boats that fish for large pelagic fishes are most likely to return from fishing.

To determine the appropriate time intervals for interviewing, interviewers should gather information on the temporal distribution of returning boats at assigned sites prior to each assignment. Newspaper articles and weekly magazine fishing reports may be useful for monitoring activity levels, as well as seasonal openings and closures of marinas and/or charter boat operations. State natural resource agency personnel, NMFS regional personnel, and NMFS port agents may also be good sources of information on the patterns of offshore pelagic fishing at specific sites. When assigned to a site or set of sites that includes a private marina or charter boat dock, the interviewer should attempt to contact a marina operator or other site authority on the fishing activity at the site prior to the date of the assignment.

The interviewer should not attempt to complete an interviewing assignment if the weather conditions are so bad that no fishing trips are likely to occur at the assigned sites. If there are small craft warnings on the assigned date, then the interviewer should report the scheduled assignments as “weathered out” and attempt to reschedule it for a later date in the same month.

On each interviewing assignment, the interviewer must carry a complete set of all necessary manuals and forms, as well as all needed equipment in useable condition. Each interviewer should carry a copy of the most recent versions of the LPIS Procedures Manual and the LPIS Coding Manual. In addition, the interviewer should carry the following forms and materials:

- Letter from NMFS – a letter on NMFS letterhead that provides a brief description of the LPIS, information required by the Paperwork Reduction Act and the Privacy Act of 1974, and contact information for a NMFS representative;
- LPS brochures and other information materials that will be provided periodically by the NMFS in volumes suitable for wide-spread distribution to all interested respondents;
- LPIS Master Site Register – the list of sites with location and fishing activity information;
- Site Description Form (SDF) – the form used to update site location and fishing activity information;
- Assignment Summary Form (ASF) – the form used to summarize labor hours, completed interviews, incomplete interviews, interviews refused, interviews not possible due to language problem, and ineligible persons encountered by reason of ineligibility;
- Screening Introduction – the series of questions used to determine the eligibility of an intercepted boat operator for the survey;
- LPIS Questionnaire/Coding Form – the form which includes the questions used for collecting data from eligible respondents and the check-boxes or spaces used for recording respondent data; and
- List of Boats with the HMS Permit (the list of boats used as the LPTS sampling frame for the current month) – the list of boats with the NMFS HMS permit sorted by permit category (charter/headboat vs. angling or general) and sorted alphabetically by boat name within the permit category. The list should include the actual permit number for each boat.

In addition, the interviewer should carry a tape measure and/or measuring board which can be used for accurate measurements of the lengths of landed fish.

3.1.2.3 Site Visit Procedures

Upon arriving at one of the sites in the assigned site cluster, the interviewer should first check with potential managers of the site to introduce himself/herself, briefly explain the purpose of the survey, answer questions, and provide copies of the letter from NMFS and the LPS brochure. The interviewers should then check to see if any boats that fish for large pelagic species have gone out that day and, if possible, determine when those boats are likely to return. Such information is important for assessing the potential number of interviews that may be obtained at the site, as well as the appropriate interviewing schedule for that day. The interviewer may then proceed to visit other sites in the assigned site cluster to assess the interviewing potential and appropriate interviewing times at all sites assigned for that day. Once the interviewer has assessed the interviewing potential at all sites in the assigned cluster, he/she should use a

strategy for moving from site to site that maximizes the number of potential completed interviews for the assignment. In determining where to locate, the interviewer should give priority to the site, or sites, with the most expected offshore pelagic fishing trips by boats of the assigned boat type on that day. The interviewer may obtain interviews at any or all of the assigned sites and may move from site to site in whatever manner appears to be appropriate to maximize the number of interviews obtained on the assignment.

Interviewers are not prohibited from interviewing at a site where a fishing tournament is in progress. However, when interviewing at a tournament site the interviewer should be sure to record information identifying the tournament.

If the interviewer encounters another interviewer present at a given site, such as a MRFSS interviewer, then he/she should relocate to another site in the assigned site cluster to avoid having two interviewers working simultaneously at the same site.

Although priority shall be given to a specific boat type on any given interviewing assignment, interviewers may obtain interviews with operators of both charter boats and private boats on all assignments. However, priority should always be given to getting interviews for the assigned boat type. For example, if “charter” is the assigned boat type and both a charter boat and a private boat return at about the same time, priority should be given to intercepting and interviewing the operator of the charter boat rather than the private boat.

There are no set on-site time limits for obtaining interviews; however, the Contractor may set a limit for the sake of efficiency. Interviewers should strive for efficiency and should not sit at sites where there is no expectation of intercepting and interviewing an eligible boat operator.

Interviewers should be careful not to station themselves next to a fish cleaning station, weigh station, or hoist if that would prevent them from intercepting returning boats with little or no catch. It is important to pick an access point for interviewing that maximizes the chance of intercepting both the most successful and the least successful returning boat operators.

3.1.2.4 Screening Procedures

When an interviewer encounters an operator of a returning boat, he/she should use the Screening Introduction to introduce himself/herself, state the purpose of the survey, and ask questions which will determine whether the interviewee is eligible for an interview. The interviewer should give his/her name and state that the study is sponsored by the NMFS. If the intercepted boat operator is willing to cooperate, the interviewer should

then ask the series of questions used to determine eligibility. To be eligible for the survey, the potential respondent must be the captain or owner of a boat that has just completed an offshore fishing trip that included fishing with rod and reel or handline for tunas, swordfish, billfishes, sharks, dolphins, amberjacks, or wahoo. Boat operators returning from fishing trips that specifically targeted but did not catch any of these specified "large pelagic species" would be considered eligible. In addition, those returning from trips that fished with hand gear and caught at least one fish in this list of species would be eligible even if they did not specifically target any of these species. Therefore, data is desired for all hand-gear fishing trips that either targeted or caught at least one of these large pelagic fishes.

If an eligible operator of a charter or private boat chooses to designate a crew member or passenger to respond to the survey as a "proxy", then that individual shall be considered eligible for an interview. In such cases, it will be important for the interviewer to record that the respondent was a designated proxy for the captain or owner of the boat.

3.1.2.5 Interviewing Procedures

Once the interviewer has determined that a potential respondent is eligible for an interview, then he/she should use the Questionnaire to conduct an interview which will collect the necessary information outlined above at the beginning of Section 3.1.3. As soon as the fisherman's eligibility is established, the interviewer must read the Privacy Act statement, which states:

> "Your participation in this survey is mandatory. Your responses will be treated as confidential records."

The brief statement above satisfies the Privacy Act requirements, as long as an additional form with the following additional information is available:

> "The data is protected by the Privacy Act of 1974 and NOAA Administrative Order 216-100."

This information is included in the letter from NMFS, which should be handed out to fishermen who want more information. Most fishermen are satisfied after hearing the abbreviated statement.
Interviewers are responsible for conducting complete interviews with eligible respondents in a professional and unbiased manner. A complete interview includes asking each respondent for data about their fishing trip, examining the catch for species identification and enumeration, and weighing and measuring the catch. The specified quota of interviews to be obtained for each state/boat-type/month stratum is the number

of complete, usable interviews of operators of boats that just completed offshore fishing trips directed at large pelagic species, and does not include eligible boat operators who were intercepted but either refused to be completely interviewed or could not be interviewed due to a language problem.

The first set of questions in the dockside intercept survey interview obtains information needed to identify the boat, its permit status, and how it is most frequently used. The first question asks for the name of the boat. The interviewer must accurately record the name of the boat, being careful to spell the name as it appears on the boat. The next few questions ask for the boat's permit status, permit category, and permit number. The interviewer should record whether or not the boat has a NMFS HMS permit. If the respondent say the boat has the permit, then the interviewer must obtain the category of the permit, as well as the permit number. The interviewer should also check to see if the boat name appears in the appropriate permit category on the list of boats that were included in the LPTS sampling frame for the current month. If the boat does not appear on the list, the interviewer should check that it is an "out-of-frame" boat. If the respondent states that the boat does not currently have an HMS permit, then the interviewer must obtain an additional vessel identifier, such as a state registration number or a U.S. Coast Guard documentation number.

After obtaining the necessary identification information for the boat, the interviewer must ask questions to determine the specific boat type and the state of the boat's primary port. To do this the interviewer must ask whether the boat is ever used to take anglers fishing for a fee. If so, then the interviewer must ask for the licensed capacity of the boat and ask whether the boat usually operates as a headboat or charter boat. The distinction between a charter boat and a headboat is important because only charter boat catch data must be used to calculate the mean catch per trip estimates that would be combined with LPTS estimates of charter boat trips to get estimates of total catch.

A series of questions follow which ask for information about the time of return; the fishing target; participation in a fishing tournament; the types of gear, bait, and fishing methods used; the numbers of anglers who fished, lines used, and hours fished; the primary fishing location; the water depth and temperature at that location; and the use of a spotter plane. The time of return is important for evaluating whether or not the temporal distribution of intercepted trips matches with the distribution of trips reported in the LPTS. The species target for the trip is important as a check that this was truly a "large pelagic species" trip, but it is also important for allowing estimates of the proportions of trips directed at different species. If the boat was participating in a tournament, it is important to get the name of the tournament so that it would be possible to exclude the sampled trip if the catch for that tournament were fully reported elsewhere. The types of bait, gear, and methods are needed to allow an accurate assessment of the distributions of different fishing tactics, as well as their potential influences on catch rates. The data on numbers of anglers, lines, and fishing hours are

important for allowing alternative assessments of the amount of fishing effort directed at certain large pelagic species. Fishing location information can be used to post-stratify fishing effort and/or catches on a finer geographic scale. Water depth and temperature data can be useful for evaluating the potential effects of these environmental factors on catch rates. Data on spotter plane use is important for assessing the influence of this fish location method on catch rates.

Before getting data on the catch for the trip, the interviewer must ask the respondent for a name and telephone number which could be used to conduct a subsequent telephone interview that would validate that the interview occurred on the reported date at the reported site. The procedures for validation of LPIS interviews is described below in Section 3.1.3.

Finally, the remainder of the interview shall collect information on the fish that were caught on the trip. The interviewer should be sure to distinguish between landed fish that were available for examination and landed or released fish that were reported by the respondent but were not available for examination.

Counts of "unobserved catch" reported by the respondent should be obtained separately for different species and for different four different disposition categories – catch that was kept to eat, catch that was kept to sell, catch that was released alive, and catch that was released dead. The interviewer should use a NMFS approved field guide as needed to aid the respondent in identifying fish to the species level. When in doubt about the species identity of any unobserved fish, the interviewer should appropriately identify the fish at a higher taxonomic level, such as genus or family.

Counts and species identifications of "observed catch" should always be made by the interviewer rather than the respondent. The interviewer should always identify each observed fish to the species level with the help of NMFS approved field guides or fish keys. These counts of "observed" landed fish should always separate fish that will be sold from fish that will be kept.

Once the interviewer has counted and identified all observed catch, he/she should ask for permission to measure at least a representative sample of the fish to obtain individual standard fork lengths. Using a NMFS approved tape measure, the interviewer should measure each fish, determine its gender (if possible from observation of external features), and observe whether the fish was measured in "whole" or "gutted" form. Lengths should be measured and recorded to the nearest millimeter. NMFS may require additional measurements for certain size classes of bluefin tuna or certain other species. For example, the length of the pectoral fin may be required for large medium and giant bluefin tuna, and the lengths of the upper bill and lower jaw may be required for all billfishes (sailfish and marlins).

3.1.2.5 Assignment Summary Procedures

While on an interviewing assignment, each interviewer shall be responsible for keeping track of information needed to summarize the day of interviewing. This can be done by recoding information on an Assignment Summary Form (ASF) similar to the ones used previously for the 2001 LPIS (Attachment G) and the 2001 MRFSS Intercept Survey (Attachment H). Such a form should be used to identify the interviewer, the date of the assignment, the site(s) assigned for interviewing, the primary boat type for the assignment, and the times of arrival and departure at each visited site in the assigned site cluster. It may also be used to keep time and expense information.

The ASF should also be designed to allow easy recording of tallies of all people returning to the visited sites from fishing trips, regardless of whether or not they turn out to be eligible for an LPIS interview. All of the tallies of contacted eligibles, missed eligibles, and ineligibles should be kept separately for each boat type at each site visited during the interviewing assignment. The interviewer should keep an accurate count of all intercepted boat operators that are determined to be “eligible” by their responses to the screener questions. This count of “contacted eligibles” is important because it indicates the potential number of completed interviews for the interviewer at that particular site on that particular day. In addition, the interviewer should keep a count of the number of potentially eligible boat operators on site that he/she was unable to intercept while interviewing other eligible boat operators. This count of “missed eligibles” would necessarily be an estimate since the interviewer would not be able to determine eligibility through direct questioning. An estimate of “non-contacted eligibles” is important for assessing the total number of eligible boat operators that could have been interviewed at the site. This information could be used to appropriately weight data when only a subsample of the eligibles present are actually interviewed. It can also be used to assess the potential benefits of sending more than one interviewer to the site on future assignments. In order to maximize efficiency, the Contractor may find it worthwhile to assign more than one interviewer to work some interviewing assignments at extremely productive sites.

The interviewer should separately tally intercepted eligibles as respondents, partial respondents, non-respondents who refused, or non-respondents who could not be interviewed due to a language problem. Only intercepted boat operators (captains or owners) who cooperate for a complete interview shall be considered “respondents”. Only complete interviews of such respondents shall be counted toward the interview quotas specified in the Tables of Section B.2. Interviews of eligible operators who answer some but not all questions shall be considered incomplete, and such individuals shall be considered only “partial respondents”. Attempted interviews of eligible people who refuse to cooperate shall be considered refusals, and such individuals shall be called “refusing non-respondents”. Attempted interviews of cooperative eligible people that could not be completed due to a language problem shall be considered language problems, and such individuals shall be “other non-respondents”. Tallies of these

potential respondents by response category will be important for evaluating survey response rates. It shall be important to try to keep response rates as high as possible. The interviewer should also keep tallies of intercepted people who returned from fishing trips that were determined to be ineligible for an LPIS interview. Such contacted ineligible people would include anglers or crew members not authorized by an eligible boat operator, as well as operators, crew members, or anglers who were on boats that did not fish offshore for any of the specified “large pelagic species”.

In addition to recording counts of eligible and ineligible contacts, as well as counts of responding and non-responding eligibles, the interviewer should update the MSR information for each visited site by completing a Site Description Form (SDF) similar to the one used for the MRFSS Intercept Survey (Attachment F).

3.1.3 LPIS Interview Validation

The Contractor is required to conduct follow-up telephone interviews to validate 10% of all the LPIS interviews obtained. Activities specific to proper conduct of validation for the LPIS include:

1. Generation of a 10 percent sample of intercept survey respondents to be called and interviewed for the purpose of validating intercept interviews;
2. Dialing and interviewing of selected intercept survey respondents to determine if interview was conducted at specified site on specified date and to determine whether or not interviewer conducted interview in professional manner according to specified procedures .
3. Tracking and reporting of progress in completing follow-up telephone validation of intercept interviews.

The sample sizes for the follow-up validation survey should be determined separately for each sampling stratum. The total validation sample for each stratum should be calculated as 10% of the total interviews conducted, regardless of whether or not a valid telephone number was obtained. In order to distribute the validation sample for each week in a representative manner across interviewing assignments, the Contractor should order interviews by date, interviewer, assignment number (first or second of day),and interview number and then take a systematic sample from the list.

Because some intercept survey respondents may refuse to provide a telephone number for the purpose of follow-up validation, the number of intercept interviews will frequently exceed the number which can potentially be validated. Therefore, it will usually be necessary to sample more than 10% of the intercept interviews with potential for validation in order to validate 10% of all intercept interviews.

In addition, some level of non-response should be expected because some telephone numbers provided by intercepted anglers may prove to be invalid and some intercepted anglers who supplied valid numbers may be difficult to reach. In order to adequately compensate for potential non-response, the Contractor should select more than the minimum number needed to achieve the 10% validation goal.

Calculation of an appropriate sample size can be illustrated with an example. Suppose 110 intercept interviews have been collected in a given sampling stratum. In order to meet the 10% validation goal, 11 follow-up interviews should be conducted with intercept survey respondents. If only 100 intercept respondents supplied a telephone number for a follow-up interview and the expected non-response rate for respondents who supplied telephone numbers (invalid or valid) is 20%, then a validation sample of 11 would have to be obtained from approximately 80 possible validation survey respondents. The percentage of interviews with telephone numbers to draw for validation purposes should be calculated as follows:

sample size = (0.10 X 110 intcpts)X(100 intcpts w/phone)/(80 potential validations)
= 13.75 rounded to 14 intercepts w/phones.

Once the weekly sample of angler intercepts with telephone numbers has been selected and telephone interviewing has begun, the Contractor should track and report weekly progress toward validating the minimum 10% sample of interviews. Weekly reports should include the number of intercept interviews obtained, the number of validations attempted, and the number of validations completed. Data collected in the validation interviews should be reported to the NMFS as specified in the Wave report.

3.1.4 LPIS Field Validation of Interviewers

The Contractor shall conduct spot-checks of field interviewers on assignment. At least 5% of all of the dockside assignments made in a given week should be visited by a field supervisor to check that the assigned interviewer has arrived with the necessary materials needed for interviewing and for identifying and measuring fish. During such spot-checks, the field supervisor shall observe the interviewer's work to be sure that questions are correctly asked, response data are properly recorded, and fish are accurately identified and measured. Spot-checks shall be distributed in a manner that insures that all field interviewers are visited on site with the same relative frequency.

3.1.5 LPIS Interviewer Training and Supervision

The Contractor shall prepare written procedures and include them in a manual to be used for training field interviewers. These procedures shall be developed from the

procedures outlined in this statement of work, the attached interviewer training manual (Attachment A) and further modifications of procedures to be provided by the NMFS. The intercept survey section of the training manual shall be subject to review by the NMFS. The manual must be submitted for NMFS review at least two weeks prior to the start of training. Once a final version of the manual is completed, the Contractor shall deliver both electronic and hard copies of it to the NMFS prior to the start of training.

The Contractor shall be responsible for recruiting, hiring, testing, and training field interviewers for the dockside intercept survey of boat trips. The Contractor shall prepare all training, examination, and study materials needed for these tasks and shall provide both electronic and paper copies of all such materials to the NMFS before using them.

Interviewer training shall be conducted at appropriate sites no later than five days prior to commencement of interviewing in any state. Sites selected for training shall be close to one of the major inlets for large pelagic fishing so that trained interviewers could be taken to a typical interviewing site. All new interviewers should be accompanied by an experienced supervisor during their first interviewing assignment. This will allow the supervisor to provide “on-the-job” training and assure that each new interviewer is adequately prepared to work on their own.

The Contractor shall screen applicants and invite for training only those that appear to have sufficient experience in the identification of fishes and sufficient knowledge of the recreational fishery for large pelagic fishes. The Contractor shall require invited applicants to pass a qualifying exam before hiring and training them as field interviewers. The qualifying exam shall include, but shall not necessarily be limited to the following:

1. Identification to the species level of fishes known to be common components of the offshore recreational pelagic fishery.
2. Demonstration of familiarity with recreational fishing methods and locations for the capture of large pelagic fishes.

Once applicants who qualify have been hired, they should be trained to accurately and consistently identify all fishes they are likely to encounter to the species level. All interviewers shall be required to accurately identify the 25 most common species in their area before they are allowed to work as interviewers. Both new and experienced interviewers shall be tested on species identification at least twice per year – once prior to the start of sampling for the year and once near the midpoint in the sampling year.

The training of new and experienced intercept survey interviewers shall include but shall not necessarily be limited to the following:

1. An introduction to the objectives, goals, and operation of both the LPS and the MRFSS.
2. An explanation of NMFS permits and regulations concerning bluefin tuna, other tunas, and other migratory pelagic species.
4. A detailed explanation of procedures for canvassing sites in assigned site clusters to determine appropriate strategies for maximizing the number of returning boats intercepted.
3. A detailed explanation of procedures for intercepting boats, for screening and interviewing boat captains or owners, and for gaining cooperation from the boat captains and owners. Training shall include procedures for requesting permission to board a vessel to examine the catch.
4. A detailed explanation of the component surveys of the LPS and their relationship to the dockside intercept survey.
5. A detailed explanation of proper procedures for coding and editing responses to the questionnaire on the intercept survey data form.
6. A detailed explanation of proper procedures for the use of field guides and/or taxonomic keys to accurately identify fish species to the species level of classification and to identify the sex of individual fish of certain species.
7. A detailed explanation of proper procedures for weighing and measuring available fish and for calibrating scales.
8. A general discussion of the principles and techniques involved in random sampling that specifically addresses the importance of randomly sub-sampling fish for measurement and of randomly sub-sampling boats at very active interviewing sites.
9. A discussion of procedures to be used for obtaining local information on fishing activity and for ranking sites in relation to pelagic fishing activity.

3.1.6 LPIS Reporting Requirements

The Contractor shall prepare and deliver monthly reports on the results of the LPIS. The reports shall cover the results of all intercept sampling efforts for a given month and shall be delivered to NMFS by the end of the third week following that month. The final report shall cover the entire intercept sampling effort and be delivered to NMFS by December 31, 2002. The report shall include but shall not necessarily be limited to the following:

I. A complete accounting of all of the interviewing assignments drawn for each State, mode and wave and for each interviewer. The accounting shall include the following:
   A. Number and percentage of assignments not completed on originally assigned date due to weather and not rescheduled due to lack of remaining days in the wave.

B. Number and percentage of completed assignments.
    1. Number and percentage of potentially eligible boats missed due to failure to intercept.
    2. Number and percentage of intercepted but ineligible boats by reason for ineligibility (e.g., non-fishing, commercial, non-pelagic, incomplete trip).
    3. Number and percentage of eligible intercepted boats by interview category.
        a. Number and percentage of incomplete interviews by reason.
            (1) Refusal to cooperate.
            (2) Other reason listed (such as language barrier, harassed by other person present).
        b. Number and percentage of complete interviews.

    Note: These data shall be maintained on magnetic media in a form that will allow the above tabulations to be made at the area/boat type/wave level. Each assignment and its outcome shall be coded on magnetic media and keyed to an appropriate identification code which will allow integration with the identification code from the intercept form.

II. Results of supervisory field visits.
III. Results of telephone validation of intercept interviews.
IV. Tabulations of the NMFS HMS permit status (permitted vs. non-permitted) of intercepted boats by boat type and permit category.
V. Summaries of selected variables from the intercept survey showing means for the following: hours fished, number of anglers, number of fishing lines.
VI. Ranked summaries of the numbers of fish kept and released by state, vessel permit category, fishing mode, day type (weekend/holiday vs. weekday) and species or market category, as well as the minimum and maximum lengths of each species or market category caught.
VII. Recommendations and proposals for change based on intercept survey results. This includes plans to increase sampling efficiency, minimize variances, enhance the participation and cooperation of respondents, or increase the visibility and usefulness of the LPIS to the public.

3.1.7 LPIS Data Entry, Editing, and Transmittal

The Contractor shall be responsible for entry of all LPIS data in SAS database format according to specifications supplied by the NMFS. All computer software developed for the entry and/or checking of LPIS data shall become the sole property of the NMFS and shall be delivered to the NMFS upon completion of each contract year. The Contractor shall provide copies of such software for NMFS review, evaluation, and approval prior to implementation. Any revisions of such software shall also be submitted for NMFS review, evaluation, and approval prior to implementation.

In addition, the Contractor shall be responsible for editing LPIS data as needed to correct possible coding and data entry errors. Every variable recorded shall be checked for possible errors, including checks on range, logic, and reasonableness. Examples of edit checks shall include but not necessarily be limited to the following: (1) checks for duplicate interview identification numbers, (2) checks for correct spelling of boat names (must allow for boats without names) and boat operator names, (3) checks for correct state and site codes, and (4) checks for reasonableness of reported fishing activity and catch.

NMFS shall reserve the right to decide whether or not data should be key-entered or scanned. In prior years of the LPIS, data has been entered into computer databases using a key-entry program which prevented entry of out-of-range values and included numerous checks for possible errors. In more recent years, data collected for the LPIS has been entered into computer databases using scanning methods and optical character recognition (OCR) software. Offerors who propose to use either key-entry or scanning methods should explain the potential advantages and disadvantages of one method versus the other. In addition, offerors should clarify whether or not their estimated costs would depend on the data entry method used and, if so, provide separate cost estimates based on each of the alternate data entry methods proposed. The Contractor shall develop well-documented SAS programs to check all variables in the standard SAS datasets for possible errors. Key-entry and checking of interview data should be conducted in a timely manner such that any errors and appropriate corrections in data coded by interviewers can be determined by direct communication with the interviewer within two weeks of the date of the interview. Any coding or data entry errors identified as a result of the checking process shall be corrected by development of well-documented SAS error-correction programs. Copies of all checking and error-correction programs developed by the Contractor shall be delivered to the NMFS along with the error-free SAS datasets.

The Contractor shall be responsible for delivery of all LPIS data in SAS database format according to specifications supplied by the NMFS. Error-free files of intercept survey data shall be sent electronically by modem to NMFS in Silver Spring, MD by 5:00 PM on the 21st day following each month of data collection. In addition, the Contractor shall deliver an electronic copy of the LPIS site sampling frame, or MSR, as well as a copy of the fully documented computer program used to draw the assignments for each month.

3.1.8 LPIS Data Reviews

The Contractor shall be required to attend two data review meetings to be held in August and November at NMFS facilities. The purpose of these meetings shall be to review preliminary LPIS data and LPS catch estimates, to discuss field interviewing

procedures, and to provide continuing education and training of the Contractor's field supervisors. The Contractor shall be required to bring at least one field representative for each state stratum to these meetings. The Contractor is expected to pay for travel for their staff, including possible state sub-contractors. The NMFS will be responsible for travel by its own staff. Other interested parties will be responsible for their own travel.

In addition, the Contractor's field supervisors shall conduct at least two regional (or state) review meetings with their field staff per year. All interviewers should be required to attend these meetings to refresh training on LPIS procedures, to be retested on identification of fish species, to review the basic details of the LPIS, and to explain any changes in questionnaires or coding forms. Interviewers shall be kept informed of developments in the recreational fisheries being surveyed, and shall be able to refer respondents to the NMFS staff for further information. Questions on protocol and fish identification should be strongly encouraged during these meetings. The contractor should provide the NMFS with a record of each regional review meeting, including an agenda and an attendance list.

3.1.9 LPIS Period of Performance

The work for the LPIS shall commence upon completion of the change order to the existing contract and continue through December 31, 2004. In 2002, the NMFS shall order conduct of the LPIS for the Northeast Region, but the NMFS may order conduct of the LPIS in both the Northeast and Southeast Regions in 2003-2004. The NMFS shall provide the interview quotas by geographic stratum and month (see example in RFP Section B.2) for the dockside interviewing upon exercise of the Contract option for the LPIS. Edited, error-free files of all of the LPIS data collected during each month shall be delivered electronically to NMFS within three weeks of the end of each calendar month.

3.2 Large Pelagics Observer Survey

An at-sea observer survey of partyboats and headboats shall be conducted for the purpose of collecting data needed to determine, on a weekly basis, the mean catches per party/headboat trip of bluefin tuna by size category and of other large pelagics by species. This survey will be called the Large Pelagics Observer Survey, or LPOS. The term "headboat" is used throughout the rest of this document to refer to both partyboats and headboats. Given the size of the headboat fleet (about 20 to 30 boats), it should be possible for the Large Pelagics Telephone Survey (LPTS) Contractor to census the fishing effort and catch of this component of the fishery during 2002. The LPTS Contractor will maintain an accurate list of the party boats participating in the fishery for large pelagic species in the following manner:

1. Before the start of the season the contractor will establish a list of all the headboats which might fish for large pelagic species in 2002 based on the 2001 LPS list of headboats and the 2001 LPTS sampling contacts.
2. As the LPTS Contractor shall update this list as it identifies additional headboats which fish for large pelagic species during the 2002 LPTS sampling.

NMFS shall provide the LPIS Contractor with the necessary information for inclusion of those boats in the list of party boats for the LPOS. If the LPOS Contractor learns of additional headboats participating in the large pelagic fishery in 2002 during the field surveys described in Sections 3.1 and 3.3, the contractor shall inform NMFS within 10 days and shall add them to the list of headboats for the LPOS.

The LPTS Contractor shall also be responsible for the establishing schedules of trips targeting large pelagic species by the listed headboats. The LPTS Contractor will contact each vessel owner before the start of the fishing season and establish a person to contact for each boat, as well as the time(s) and phone number(s) at which to reach that person. This information will be provided to the NMFS before the start of the fishing season. The LPTS Contractor shall also deliver a schedule of large pelagic fishing trips and anticipated lengths of those trips (single day, ½ day, multi-day) for each boat in a given month.

The NMFS shall provide the headboat lists and corresponding “large pelagics” trip schedules to the LPOS Contractor so that the latter can schedule at-sea observer assignments to obtain catch-per-trip information from a sample of headboat trips.

3.2.1 LPOS Sampling

NMFS shall provide a list of headboats which fish for large pelagic species in the states to be covered by the LPOS. For the purpose of this survey a “headboat” is any fishing boat that typically carries anglers for an individual fee. This definition excludes “charter” boats which usually carry up to 6 or 7 anglers who pay as a group. The NMFS shall also provide the proposed 2002 schedules for listed headboats. The NMFS shall provide the list of boats and the schedules for each boat to the LPOS Contractor at least two weeks prior to the start of LPOS at-sea sampling for a given month.

From the provided headboat schedules of large pelagic fishing trips, the Contractor shall randomly select a sample of trips and arrange for trained dockside survey interviewers to board those trips to obtain catch and biological data. Procedures for the random selection of scheduled headboat trips directed at large pelagic species shall be submitted for NMFS approval at least one month prior to the start of observer sampling. Once the Contractor has selected a random sample of scheduled trips, attempts should

be made to contact the selected headboat operators to arrange for at-sea observers to board the randomly selected scheduled trips for that boat. The Contractor's observers shall conduct on-board counts and measurements of catch, as well as interviews of headboat captains, during these trips.

3.2.2 LPOS Interviewing Procedures

The Contractor shall work with the NMFS to develop a questionnaire and a data collection form to be used for on-board interviewing and sampling of headboat catches. The questionnaire/coding form will be a modification of the one used for the LPIS, which is described in Section 3.1.3.

The minimum data to be obtained by at-sea observers on headboat trips are similar to those described in Section 3.1.3 for the LPIS.

1. The date, day, access site, inlet, fishing location, and target category for the boarded headboat trip.
2. The number of anglers on board and the number of lines in the water during the boarded trip.
3. The number of fish kept and released by bluefin tuna market category, by species, or by species group on the boarded trip.

3.2.3 LPOS Interviewer Training and Supervision

The Contractor shall coordinate with NMFS in reviewing and revising, if needed, written LPOS procedures for inclusion in the manual to be used in training LPIS interviewers. These procedures shall be developed from the procedures outlined in this statement of work, as well as from further modifications of procedures to be provided by NMFS. The LPOS section of the training manual shall be subject to review by NMFS. The final manual must be prepared at least two weeks prior to the start of data collection.

The Contractor shall be responsible for recruiting, hiring, and training the at-sea observers for the LPOS. The training of LPOS observers shall include, but not necessarily be limited to the following:

1. An introduction to the objectives, goals, and operation of the LPOS.
2. A detailed explanation of procedures for collecting headboat catch data and interviewing headboat captains during boarded trips.
3. A detailed explanation of the proper procedures for coding and editing responses on the LPOS questionnaire/coding form.

3.2.4 LPOS Reporting Requirements

The Contractor shall prepare a report following the completion of the LPOS in each year. The report shall include but not necessarily be limited to the following:

1. Tabulation of the listing status (listed vs. unlisted on telephone survey directory frame) of headboats.
2. Summaries of selected variables from the LPOS showing means for the following: hours fished, number of anglers, and number of lines.
3. Ranked summaries of the numbers of fish kept and released (alive and dead) by state, day type, and species or market category, as well as the minimum and maximum lengths obtained for each species, species group, and/or bluefin tuna size category.
4. Recommendations and proposals for change based on LPOS results.

3.2.5 LPOS Data Entry, Editing, and Transmittal

The Contractor shall be responsible for entry of all LPOS data in SAS database format according to specifications supplied by the NMFS. In addition, the Contractor shall be responsible for editing LPOS data as needed to correct possible coding and data entry errors. Every variable recorded shall be checked for possible errors, including checks on range, logic, and reasonableness. Error-free files of LPOS data shall be sent electronically by modem to NMFS in Silver Spring and Miami by the end of the second week following each month of data collection.

3.2.6 LPOS Period of Performance

The work for the LPOS shall commence one week before the start-up of the headboat fishing season for large pelagic species and continue through the end of the season. Error-free files of all of the LPOS data collected in the survey region shall be delivered to NMFS by the end of the calendar year. In addition, the final report summarizing the results of the LPOS data collection efforts in all states shall be delivered to NMFS by the end of the end of the calendar year.

3.3 Large Pelagics Biological Survey

A supplementary survey may be conducted for the purpose of collecting tissue samples of bluefin tuna and other large pelagic fishes, as well as supplemental length and weight information needed to provide in-season estimates of the average sizes for all large

pelagic species for each wave and state. Data collection for this survey will be independent of the LPIS and the LPOS. The LPBS Contractor shall be responsible for the following activities:

1. Intercepting captains/mates/owners at weighing or cleaning stations who have just finished fishing trips for large pelagic fishes according to a schedule similar to that shown in RFP Section B.2;
2. Obtaining and recording lengths and weights by species of bluefin tuna and other large pelagic species brought to the station during a 2-8 hour period when most boats return from large pelagic fishing trips;
3. Obtaining gonads and hearts from a random sub-sample of the bluefin tunas that were weighed and measured.
4. Recording additional information such as date, site and vessel name, vessel type, and if possible, gender of each fish.

The Contractor in consultation with NMFS shall review the intercept sample frame and identify sites with frequent catches of bluefin tuna where appropriate weighing or cleaning stations are located. The preliminary site frame for the biological sampling shall be completed at least two weeks prior to the start of sampling.

The Contractor should contact marina operators prior to the start of the season to establish the reporting system and facilitate cooperation.

3.3.1 LPBS Sampling

The LPBS Contractor shall work with the NMFS to prepare a list of sites in all states which have high levels of bluefin tuna landings. The Contractor shall use this sub-sample frame to identify those sites which have a central weighing or cleaning station at which a sampler could obtain supplemental length and weight measurements, as well as tissue samples. The sites selected should include all boat types (charter, headboat and private). Each marina operator in the sub-sample frame will be contacted to identify the best means of obtaining the required data. Information from all fish brought to the weighing station shall be recorded.

The field sample allocation is specified in RFP Section B.2. The Contractor in conjunction with NMFS shall develop an assignment schedule to maximize the number of length and weight measurements and ensure collection of minimum numbers of ovary and heart specimens from landed bluefin tunas.

The Contractor shall be responsible for ensuring that all drawn assignments are completed. If any assignment could not be completed on its assigned date due to any reason, then it must be rescheduled and completed on another appropriate date.

3.3.2 LPBS Data Collection Procedures

Procedures for collecting biological data are similar to those used in the intercept survey. Data collection shall be conducted by the Contractor from the specified start date through December 31, 2002 to obtain LPBS sampling goals specified by the NMFS. The NMFS reserves the right to alter the assignment quotas prior to exercising this Contract option. Assignments for each state, or region, shall be distributed uniformly throughout the time interval specified. Assignments shall cover a 2-8 hour period. LPBS interviewers shall not conduct LPIS interviews during LPBS assignments; the priority for these assignments is to obtain biological data.

The following procedures shall be used in obtaining length and weights for all large pelagic species brought to the weighing station:

1. Each marina operator shall be contacted prior to sampling to obtain permission to sample at the site and to explain the purpose of the sampling.
2. The weigh station operator and/or boat owner/captain/mate shall also be asked to allow the sampler to examine, count, and measure all large pelagic species (albacore, skipjack tuna, bluefin tuna, yellowfin tuna, bigeye tuna, white marlin, blue marlin, sailfish, swordfish, wahoo, blue shark, mako shark, thresher shark, white shark, sandbar shark, dusky shark, tiger shark, hammerhead shark, sand shark, false albacore, Atlantic bonito, amberjacks, and dolphin) brought to the station and obtain tissue samples from at least a subset of the fish measured. The interviewer shall identify each available fish to the species level, measure its fork length to the nearest centimeter, weigh it to the nearest ½ kilogram, and, if possible, identify its sex. If the sample station has a scale and weighs individual fish then the sampler may record the information if: (a) individual fish are weighed, and (b) the sampler actually sees the fish being weighed. For this portion of the LPS, length measurements take priority over weight measurements and measurements of bluefin tuna takes priority over all other species. Appropriate sub-sampling procedures shall be developed for use when a large number of fish are arriving at the weigh station simultaneously.
3. The station operator or boat captain/mate/owner shall be asked for the vessel name and boat type.
4. Entire ovary pairs shall be obtained from a sample of bluefin tuna throughout the sampling season. A maximum of 5 samples per assignment and 100 for the season shall be obtained. Additional information to be recorded for each sample includes: date, species, length, and weight. NMFS shall provide materials and training in the proper procedures for handling the samples and delivery of the material.
5. Heart samples (1/4 section of whole heart) shall be obtained from a sample of bluefin tuna throughout the sampling season. Heart samples shall be prepared

and preserved according to NMFS sampling protocol. A maximum of 5 samples per assignment and 100 for the season shall be obtained. Additional information to be recorded for each sample includes: date, species, length, and weight. NMFS shall provide materials and training in the proper protocol procedures for handling the samples and delivery of the material.

6. Otoliths shall be removed from a sample of bluefin tuna throughout the sampling season. Additional information to be recorded for each sample includes: date, species, length, and weight. NMFS shall provide materials and training in the proper procedures for handling the samples and delivery of the material.
7. Fish from which heart and/or ovary specimens are obtained should also be photographed whenever possible.

The Contractor shall develop, in conjunction with NMFS, an appropriate data recording form. An example of a form used in a previous year is provided as Attachment I. The form should be tailored to facilitate rapid editing and key-entry of the data.

The minimum information to be obtained from each biological sampling assignment is as follows:

1. The date and access site for the assignment;
2. Vessel name, permit number, fishing area, water temperature, and tournament participation category for each fish being sampled;
3. Species name, length, weight, gender (dolphin and sharks), preparation
4. The lengths, weights, genders and dispositions (round weight or dressed) of available fish, by species, brought to the weigh station and whether a gonad or heart was collected and preserved;
5. Otoliths, ovaries and hearts preserved according to protocol procedures to be outlined by the NMFS.

3.3.3 LPBS Sampler Training and Supervision

The Contractor shall coordinate with NMFS in developing written sampling procedures for a manual to be used in training interviewers (see Attachment B). These procedures shall be developed from the procedures outlined in this statement of work for the dockside intercept survey, as well as from further modifications of procedures to be provided by NMFS. The size-sample survey section of the training manual shall be subject to review by NMFS. The final data recording form and training procedures must be preparedat least two weeks prior to the start of sampling.

The Contractor shall be responsible for recruiting, hiring, and training samplers for the survey. The NMFS will provide the Contractor's training staff with training on proper procedures for obtaining, preserving and delivering gonad and heart specimens to the

NMFS. Sampler training shall be conducted at appropriate sites in the survey area. The Contractor shall screen applicants and invite for training only those that have a knowledge of and experience in the identification of Large pelagic fishes fishes.

The training of biological samplers shall include, but not necessarily be limited to the following:

1. An introduction to the objectives, goals, and operation of the LPS and MRFSS.
2. A detailed explanation of procedures for obtaining the needed biological information.
3. A detailed explanation of the proper procedures for coding and editing data.
4. A detailed explanation of proper procedures for the use of field guides and taxonomic keys to accurately identify fish species to the species level of classification and to identify the sex of certain species.
5. A detailed explanation of proper procedures for weighing and measuring available fish, and for calibrating hand scales.
6. A general discussion of the principles and techniques involved in randomly sub-sampling fish for measurements.
7. A detailed discussion of proper procedures for obtaining biological material (ovaries and hearts), preservation of the material, delivery of material to NMFS, and sample documentation.

The Contractor shall conduct spot-checks of samplers on assignments, and validate at least 50% of the assignments conducted by each sampler.

3.3.4 LPBS Reporting Requirements

The Contractor shall prepare bimonthly and final reports on the results of the biological sampling effort. The bimonthly reports shall be delivered to NMFS by the 28th day following each two-month period. The final report shall cover the entire sampling effort and be delivered to NMFS by December 31, 1996. The reports shall include but shall not necessarily be limited to the following:

1. A complete accounting of all the LPBS assignments for each state and month for each interviewer. The accounting shall include the following:
   a. Number and percentage of assignments not completed on originally assigned date due to weather and not rescheduled due to lack of remaining days in the wave.
   b. Number and percentage of completed assignments.
2. Results of supervisory field visits.
3. Summaries of selected variables from the LPBS showing standard statistics for measured lengths and weights by species and the number of ovary and heart

specimens obtained.

4. Recommendations and proposals for changes to improve the LPBS in future years.

3.3.5 LPBS Data Transmittal

The Contractor shall arrange for key-entry, editing, and delivery of biological sampling data into computer files in a format defined by NMFS. Every variable recorded shall be checked for data entry errors, range, logic, and reasonableness. Examples of edit checks shall include, but not necessarily be limited to the following: check for correct spelling of boat names, check for correct site codes, and valid species codes, and reasonableness of recorded lengths and weights.

The Contractor shall deliver preserved ovary and heart specimens to the NMFS on a bi-weekly basis. Procedures for proper packaging and mailing of specimens will be included in the training provided by the NMFS.

Edited files of biological sample data shall be sent electronically by modem to NMFS in Silver Spring and Miami by the 21st day following each month. In addition, the Contractor shall place on diskette all data collected from the biological sampling effort. These data shall be supplied to NMFS within 21 days following the completion of each month of data collection. The database format shall be provided to the Contractor by NMFS.

3.3.6 LPBS Period of Performance

The field work for the biological sampling survey shall follow the schedule submitted by the NMFS upon exercise of the LPBS option.

Edited files of all of the biological data collected for the entire sampling period shall be supplied to NMFS on diskette by December 31, 2002. The final report summarizing the results of the biological sampling in all states shall be delivered to NMFS by December 31, 2002.

3.4 Large Pelagics Economic (and Sociocultural) Intercept Survey

Numerous statutory requirements mandate that NMFS take into account the economic and sociocultural consequences of fishery management actions on the people who fish and their respective communities - whether they fish for commercial gain, recreation, or subsistence. The basic idea behind these requirements is that we should use common

sense guidelines when choosing management options. For example, if two different policies are expected to yield equivalent biological outcomes but are quite different in terms of the economic or sociocultural costs they impose on anglers, then we should choose the lower cost option. Further, where adverse impacts are inevitable given resource conditions, then we should be developing mitigating policies that can be relatively easily introduced to help anglers, their families, and their communities compensate for the losses. In order to make these common sense judgements regarding the potential effects of fishery management policies, economic and sociocultural data are needed. Analyses of such data will allow the agency to estimate changes in behavior (number of trips, location of trips, participation, alternate fisheries activity) in response to policies related to large pelagic species. This in turn, will facilitate estimation of changes in economic value and in both sociocultural and economic impacts related to those policies.

Economic analyses of recreational and subsistence anglers can be broadly categorized as either economic value or economic impact studies. Each of these types of analysis has its own set of data requirements. An economic impact analysis examines expenditures that fishermen make to go fishing (gas, bait, charter fees, food, etc.) and traces those expenditures through a regional economy. Results from this type of analysis can be used to examine a community's reliance on anglers' expenditures. Economic value can be thought of as the amount a fisherman would have been willing to pay to go fishing over and above the expenditures incurred for the fishing trip. For economists, economic value is an extremely important concept when comparing the well-being of someone before and after a policy change (e.g. a fishery management action). Both economic value and economic impacts are important for characterizing the economic affects of fishery regulations on recreational participants and both are needed to fulfill the regulatory requirements listed above.

Sociocultural analyses of recreational and subsistence fishermen can also be grouped under two broad categories -- community profiles and social impact assessments. Each has its own, sometimes overlapping, set of data requirements. Community profiles describe the fishing community and its members. They employ both quantitative and qualitative data – some of which must be gathered via ethnographic studies, some of which is available through the US Census and other government sources and other of which can be acquired through surveys and logbooks. These profiles provide a baseline description of each fishing community, highlighting special characteristics and particular vulnerabilities. Social impact assessments use these profiles as a starting point for determining which communities are likely to be affected by particular regulatory proposals and then gather additional data to aid in predicting likely changes to the social structure and cultural fabric of communities, as well as the impacts on individual fishermen and fishing families.

The Large Pelagics Economic (and/or Sociocultural) Intercept Survey (LPEIS) shall be

conducted in conjunction with the LPIS. The LPEIS shall attempt to intercept and interview anglers who fished for large pelagic fishes on boats intercepted by the LPIS. Interviewers shall ask intercepted anglers a minimum number of economic questions in brief dockside interviews and they shall also ask those same anglers to cooperate with a follow-up telephone survey. For intercepted anglers who indicate a willingness to cooperate interviewers shall collect a name and telephone number for a subsequent telephone interview. The Contractor shall attempt to contact cooperating anglers to conduct the follow-up telephone interviews within 2-3 weeks of the field intercept date.

In any given year that the LPEIS is conducted, the questions will be specifically geared toward collection of data needed for economic valuation, economic impact, community profiles, and/or social impact analyses. Therefore, the content of the questionnaires used for angler interviews may vary considerably from year to year. In general, the follow-up telephone interview will ask for more general information about the angler's fishing expenditures, fishing preferences, and/or attitudes about specific management practices that are not specific to the intercepted fishing trip. The telephone interview may also collect basic demographic and/or sociocultural data on the intercepted angler. Dockside questions shall be limited to collecting trip-specific information for which immediate recall is essential. The majority of questions included in any specific study shall be asked in the follow-up telephone interview.

3.4.1 LPEIS Sampling

The Contractor shall attempt to interview anglers who fished on boats intercepted by the LPIS that just returned from trips that included fishing for large pelagic fishes. When it is not practical to try to interview all anglers on a given boat, the interviewer should randomly select a subsample of the anglers for LPEIS interviews. When in doubt, priority should always be given to the interviews of boat operators for the LPIS. Whenever possible, angler interviews should be collected prior to boat operator interviews. If there is not sufficient time to interview any anglers prior to conducting an LPIS interview with the boat operator, then angler interviews for the LPEIS should not be attempted. Interviewers should attempt to interview a minimum of two anglers from each intercepted boat.

If it proves to be too difficult for one interviewer to collect both angler interviews and boat operator interviews, then it may be necessary to send two interviewers on at least some dockside interviewing assignments. The two interviewers would approach returning boats as a well-coordinated team. One interviewer would intercept and interview each boat operator for the necessary CPUE data while the other interviewer would intercept and interview anglers who fished on the boat for the necessary trip-specific economic or sociocultural data. It may prove to be most efficient to use a

combination of the two methods. Interviewing assignments at high activity sites could employ the "two-interviewer" approach and assignments at other sites could employ the "one-interviewer" approach to get both angler and boat operator interviews.

3.4.2 LPEIS Dockside Interviews of Anglers

Angler interviews shall only collect angler-specific and trip-specific data that are not already obtained in the interview of the boat's operator. Interviews of anglers who fished on the same boat trip should be linked with the interview of the boat operator for the same trip by a common code so that angler-specific data can be later analyzed in conjunction with mean angler catch data and boat-specific trip data.

The questionnaire for the dockside LPEIS interviews of anglers shall include 10-15 questions which will be designed to collect the following minimum information:

1. The state, county, and zip code of the angler's permanent residence.
2. The angler's avidity measured as the numbers of days on which the angler fished for large pelagic species in the last month and in the last 12 months.
3. The number of hours spent fishing (with gear in the water) during the trip just completed.
4. Information about the angler's travel (number of nights away from home, number of days spent fishing, lodging expenditures, primary purpose of travel, self-reported travel costs) associated with the fishing trip just completed.

Dockside angler interviews shall end with a question asking the angler to cooperate with a follow-up telephone interview. If the angler agrees to cooperate, then the interviewer should obtain a name and phone number and tell the angler to expect a call to conduct a follow-up telephone interview within 2-3 weeks.

3.4.3 LPEIS Follow-Up Telephone Interviews of Anglers

The collected names and telephone numbers of intercepted anglers should then be used for the conduct of the follow-up telephone survey. A follow-up telephone interview of each cooperating angler should be conducted within 2-3 weeks of the dockside intercept. A questionnaire consisting of 30-40 questions should be administered in the telephone survey to collect the data required for planned economic, or sociocultural, analyses. The Contractor shall conduct telephone interviews using state-of-the-art Computer Assisted Telephone Interviewing (CATI) methods.

If the primary purpose of the LPEIS is to collect data for economic valuation, then the following minimum data elements would be collected in the follow-up telephone

interviews:

1. The angler's reasons for fishing for large pelagic species;
2. The angler's years of experience in fishing for large pelagic species, as well as the angler's motivations for this kind of fishing;
3. Information about the angler's management preferences;
4. The angler's willingness to pay for changes in bag limits;
5. The angler's ownership of a boat and the length of the boat;
6. The age, gender, and ethnicity of the angler;
7. The angler's education level and employment status;
8. The size of the angler's household and the level of the household's income; and
9. The angler's work schedule, hourly wage, paid vacation, and wages foregone for fishing trips;

If the primary purpose of the LPEIS is to collect data for economic impact analyses, then the following minimum data elements would be collected in the follow-up telephone interviews:

5. The angler's trip-specific expenditures for the most recent fishing trip directed at large pelagic fishes. These would include expenditures for boat fuel, bait, ice, launch fees, and groceries (food, drink, refreshments, etc.).
6. The angler's expenditures on durable fishing equipment or vehicles, such as:
    a. Rods, reels, and tackle;
    b. Clothing and other equipment;
    c. Boats, boat engines, and electronic devices;
    d. Repair/maintenance (prior to the most recent trip);
7. The angler's assessment of his/her own fishing ability;
8. Boat ownership;
9. Trip supply expenses; and
10. The angler's work schedule and wages foregone for fishing trips.

If the primary purpose of the LPEIS is to collect data for social impact analyses, then the following minimum data elements would be collected in the follow-up telephone interviews:

1. The age, gender, and ethnicity of the angler;
2. The angler's education level;
3. The angler's marital status and number of children;
4. The composition of the angler's household and the employment status of household members;
5. The angler's history of involvement in recreational fishing for large pelagic species;
6. The angler's employment history;

7. The angler's preferences for different alternative management measures;
8. The angler's membership in community organizations and recreational fishing organizations;
9. The angler's confidence in the future of recreational fishing for large pelagic species; and
10. The angler's household income.

3.4.4 LPEIS Interviewer Training and Supervision

The Contractor shall prepare written procedures for the intercept component of the LPEIS and include them in the training manual to be used for training LPIS field interviewers. These procedures shall be developed from the procedures outlined in this statement of work and further modifications of procedures to be provided by the NMFS. The intercept LPEIS section of the LPIS training manual shall be subject to review by the NMFS. The final LPEIS portion of the LPIS manual must be submitted to the NMFS at least two weeks prior to the start of LPEIS sampling.

The Contractor shall be responsible for recruiting, hiring, and training field interviewers on proper conduct of angler interviews for the dockside intercept component of the LPEIS. Interviewer training shall be conducted at appropriate sites no later than five days prior to commencement of LPEIS interviewing in any state. Sites selected for training shall be close to one of the major inlets for large pelagic fishing so that trained interviewers could be taken to a typical interviewing site.

The Contractor shall also be responsible for recruiting, hiring, and training telephone interviewers to conduct angler interviews for the follow-up telephone component of the LPEIS.
The training of LPIS dockside interviewers on the proper conduct of the intercept portion of the LPEIS shall include but shall not necessarily be limited to the following:

1. An introduction to the objectives, goals, and operation of both the intercept and follow-up telephone components of the LPEIS;.
2. A detailed explanation of procedures for intercepting and interviewing anglers who fished on boats operated by LPIS respondents;
3. A detailed explanation of procedures for screening and interviewing anglers, and for gaining cooperation from those anglers for the follow-up telephone survey component of the LPEIS.
4. A detailed explanation of the intercept and follow-up telephone components of the LPEIS and their relationship to the dockside intercept survey.
5. A detailed explanation of proper procedures for coding and editing responses to the questionnaire on the LPEIS data form.
6. A general discussion of the principles and techniques involved in random

sampling that specifically addresses the importance of randomly sub-sampling anglers who fished on intercepted boats.

The training of telephone interviewers for conduct of the LPEIS follow-up telephone component shall include but shall not necessarily be limited to the following:

1. An introduction to the objectives, goals, and operation of both the intercept and follow-up telephone components of the LPEIS;.
2. A detailed explanation of procedures for dialing, screening, and interviewing anglers who supplied a name and telephone number when interviewed at dockside by the LPEIS intercept component.
3. A detailed explanation of the intercept and follow-up telephone components of the LPEIS and their relationship to the dockside intercept survey.
4. A detailed explanation of proper procedures for coding and editing responses to the follow-up telephone questionnaire.
5. A general discussion of the importance of minimizing non-response and the potential for non-response biases in survey estimates.

3.4.5 LPEIS Reporting Requirements

The Contractor shall prepare and deliver bimonthly reports on the results of the LPEIS. The reports shall cover the results of all intercept sampling efforts for a given 2-month period and shall be delivered to NMFS by the end of the third week following that 2-month period. The final report shall cover the entire LPEIS sampling effort and be delivered to NMFS by December 31, 2002. The report shall include but shall not necessarily be limited to the following:

I. A complete accounting of all of the LPIS/LPEIS interviewing assignments drawn for each state, boat type and month. The accounting shall include the following:
    A. Number and percentage of completed LPIS/LPEIS assignments.
        1. Number and percentage of potentially eligible anglers on boats operated by LPIS respondents missed due to failure to intercept.
        2. Number and percentage of intercepted but ineligible anglers on boats operated by LPIS respondents by reason for ineligibility (e.g., non-fishing, commercial, non-pelagic, incomplete trip).
        3. Number and percentage of eligible intercepted anglers on boats operated by LPIS respondents by interview category.
            a. Number and percentage of incomplete interviews by reason.
                (1) Refusal to cooperate.
                (2) Other reason listed (such as language barrier, harassed by other person present).
            b. Number and percentage of complete interviews.

Note: These data shall be maintained on magnetic media in a form that will allow the above tabulations to be made at the state/boat type/month level. Each assignment and its outcome shall be coded in SAS datasets to be delivered electronically. Datasets should contain appropriate identification codes which will allow integration with the identification codes in the LPIS datasets.

II. Results of supervisory field visits regarding proper conduct of the LPEIS procedures.

III. Results of telephone validation of intercept interviews regarding proper conduct of LPEIS procedures.

IV. Summaries of selected demographic, economic, and/or sociocultural variables from the LPEIS intercept and follow-up telephone interviews showing mean values by state/boat-type/month stratum.

V. Recommendations and proposals for change based on LPEIS survey results. This includes plans to increase sampling efficiency, minimize variances, enhance the participation and cooperation of respondents, or increase the visibility and usefulness of the LPEIS to the public.

3.4.6 LPEIS Data Entry, Editing, and Transmittal

The Contractor shall be responsible for entry of all LPEIS data in SAS database format according to specifications supplied by the NMFS. In addition, the Contractor shall be responsible for editing LPEIS data as needed to correct possible coding and data entry errors. Every variable recorded shall be checked for possible errors, including checks on range, logic, and reasonableness.

The Contractor shall be responsible for delivery of all LPEIS data in SAS database format according to specifications supplied by the NMFS. Error-free files of intercept survey data shall be sent electronically by modem to NMFS in Silver Spring, MD by 5:00 PM on the 21st day following each month of data collection.

3.4.7 LPEIS Period of Performance

The work for the LPEIS shall commence upon completion of the change order to the existing contract and continue through December 31, 2004. In 2002, the NMFS does not anticipate ordering either of the LPEIS components in either the Northeast or Southeast Regions. In 2003 or 2004 NMFS may order conduct of the intercept component or both the intercept and telephone components of the LPEIS in the Northeast Region, the Southeast Region, or in both regions. Edited, error-free files of all of the LPEIS data collected during each month shall be delivered electronically to NMFS within three weeks of the end of each calendar month.

3.5 Large Pelagics Vessel Validation Survey

A supplementary dockside survey may be conducted to independently validate charter boat and/or headboat trips reported in Large Pelagics Telephone Survey (LPTS) interviews. The NMFS Contractor for the LPTS shall select the sample of charter boats and headboats to be covered in each weekly survey at least three weeks before interviews are initiated. The lists of selected boats should be used as sampling frames for the dockside Large Pelagics Vessel Validation Survey (LPVVS) to be conducted during the same weeks covered by the LPTS. Attempts should be made to visit the principal port locations of all boats on the list at least three times during the one-week, or two-week, period for which data will be requested in subsequent telephone interviews.

The visits to each boat's port location will be for the purpose of directly observing whether the boat is "out" or "in". If a data clerk observes that the boat is not in its slip, then the data clerk will need to check with a marina operator if possible to confirm whether or not the boat is known to be in use for fishing. Dockside observations for each boat would then be matched with fishing trip data reported for that boat in a telephone interview of the boat's designated representative. The matched LPVVS and LPTS data will be used to estimate the total error in the reporting of large pelagic fishing trips for boats covered by the LPTS.

3.5.1 LPVVS Sampling

The LPIS Contractor shall use the list of boats selected for each wave of LPTS interviewing as the sampling frame for the selection of specific boat/day combinations for dockside validation assignments. The list of boats selected for a given one-week, or two-week, period shall immediately be delivered to the NMFS and to the LPIS Contractor so that the latter can plan dockside validation visits. Dockside observations should only be attempted for charter boats and headboats that are normally found in slips. Therefore, trailered charter boats that only operate out of ramp sites should not be included in the LPVVS sampling. Ideally, the three dates chosen for each boat should be randomly selected, but it may be necessary to group boats together by geographic location and randomly select dates for boat clusters to minimize the potentially high costs associated with this sampling. If the latter approach is used, then attempts should be made to randomize the days of the week on which different boat clusters are visited. The Contractor should attempt to maximize the size of such clusters, hence maximize the number of boats validated per assignment, in order to minimize the number of assignments needed to validate each selected boat on a minimum of three days per week.

The sampling allocations for the LPVVS provided in RFP Section B.2 are simply the numbers of boats to be validated at least three times each week. Pricing for this task

should be based on estimates of the mean number of for-hire boats that could be validated per LPVVS assignment, the mean number of assignments needed to validate all selected boats on three different days, and the mean cost per assignment.

3.5.2 LPVVS Data Collection

Each assignment should specify sites to be visited and for-hire boats to be checked at each site. Trained observers should be assigned to perform the site visits and dockside observations. The assigned observer should visit each boat's port location at a time of day when the boat is most likely to be in use for fishing. During site visits, the observer should check for boats with permanently assigned boat slips to see if they are "in" or "out". A visual check would also work with vessels that are assigned to a permanent location in a storage shed. The observer should record the times of arrival at the site and departure from the site, as well as the direct observation of the boat's presence or absence.

If the preliminary check determines that a vessel is out, the observer must then try to determine what activity the vessel is engaged in such as actively "charter fishing", "fishing for pleasure", "checking out the engines", etc.. In order to do this, the observer should speak to a reliable source such as a marina operator or booking agent. If the observer is asked why this information is needed, the observer should be courteous and explain that the information will be used to verify trips reported in a separate telephone survey of captains. If the boat is being used for rod-and-reel or handline fishing, then it is also important to determine as accurately as possible whether or not the boat is being used to fish for large pelagic fishes.

3.5.3 LPVVS Observer Training and Supervision

The Contractor shall coordinate with NMFS in developing written LPVVS procedures for inclusion in the manual to be used in training LPIS interviewers. These procedures shall be developed from the procedures outlined in this statement of work, as well as from further modifications of procedures to be provided by NMFS. The LPVVS section of the training manual shall be subject to review by NMFS. The final manual must be prepared at least two weeks prior to the start of data collection.
The Contractor shall be responsible for recruiting, hiring, and training the dockside observers for the LPVVS. The training of LPVVS observers shall include, but not necessarily be limited to the following:

1. An introduction to the objectives, goals, and operation of the LPVVS.
2. A detailed explanation of procedures for dockside collection of information on the presence/absence and fishing status of for-hire boats.

3. A detailed explanation of the proper procedures for coding and editing responses on an LPVVS data collection form.

3.5.4 LPVVS Reporting Requirements

The Contractor shall prepare and deliver bimonthly reports on the results of the LPVVS. The reports shall cover the results of all dockside validation visits for a given 2-month period and shall be delivered to NMFS by the end of the third week following that 2-month period. The final report shall cover the entire LPVVS sampling effort and be delivered to NMFS by December 31, 2002. The report shall include but shall not necessarily be limited to the following:

I. A complete accounting of all of the LPVVS dockside assignments for each state, boat type and month. The accounting shall include the following:
   A. Number and percentage of completed LPVVS assignments.
      1. Number and percentage of charter boats and headboats observed to be “in” or “not fishing for large pelagic species”.
      2. Number and percentage of charter boats and headboats observed to be “out” and “fishing for large pelagic species”.
      3. Number and percentage of charter boats and headboats that could not be validated.

II. Recommendations and proposals for change based on LPVVS survey results. This includes plans to increase sampling efficiency, minimize variances, enhance the participation and cooperation of respondents, or increase the visibility and usefulness of the LPVVS to the public.

3.5.5 LPVVS Data Entry, Editing, and Transmittal

The Contractor shall be responsible for entry of all LPVVS data in SAS database format according to specifications supplied by the NMFS. In addition, the Contractor shall be responsible for editing LPVVS data as needed to correct possible coding and data entry errors. Every variable recorded shall be checked for possible errors, including checks on range, logic, and reasonableness.

The Contractor shall be responsible for delivery of all LPVVS data in SAS database format according to specifications supplied by the NMFS. Error-free files of data shall be sent electronically by modem to NMFS in Silver Spring, MD by 5:00 PM on the 21st day following each month of data collection.

3.5.6 LPVVS Period of Performance

The work for the LPVVS shall commence upon completion of the change order to the existing contract and continue through December 31, 2004. In 2002, the NMFS does not anticipate ordering the LPVVS component in either the Northeast or Southeast Regions. In 2003 or 2004 NMFS may order conduct of the LPVVS in the Northeast Region, the Southeast Region, or in both regions. Edited, error-free files of all of the LPVVS data collected during each month shall be delivered electronically to NMFS within three weeks of the end of each calendar month.

4. REPORTING REQUIREMENTS

4.1 Period of Performance

The work for the four component surveys shall commence upon completion of the change order to the existing contract and continue through December 31, 2002. The period following contract award will be used by the Contractor for planning; recruiting, hiring, and training of interviewers; developing the sampling software, questionnaires, and coding forms; and preparing for key-entry, editing, and delivery of data. The dates shown below are representative of specific time frames for the component surveys of the 2002 Large Pelagics Intercept Survey.

The work for the LPIS shall follow the schedule and sampling allocations provided below. Dockside interviews shall be conducted continuously throughout the sampling period. The work for additional data collection tasks such as the LPOS, LPBS, LPEIS and/or LPVVS shall follow a similar schedule.

4.2 Delivery Schedule

Data handling shall be continuous throughout the survey period. Edited files of the intercept survey data and mark/recapture survey data collected for each week (Monday - Sunday) shall be sent electronically by modem to NMFS by the Thursday following each wave. Edited files of the telephone survey data collected for each week (Monday - Thursday) shall be sent electronically by modem to NMFS by 3:00 PM the Friday following the completion of dialing. The data delivery dates for the data collection tasks are as follows:

Data Delivery Schedule

Month Covered	Delivery Date for LPIS, LPOS, LPBS, LPEIS & LPVVS Data
May 1-31, 2003	
June 1-30, 2002	
July 1-31, 2002	July 21, 2002
August 1-31, 2002	August 21, 2002
September 1-30, 2002	September 21, 2002
October 1-31, 2002	October 21, 2002
November 1-30, 2002	November 21, 2002
December 1-31, 2002	December 21, 2002
January 1-31, 2003	January 21, 2003
February 1-28, 2003	February 21, 2003
March 1-31, 2003	March 21, 2003
April 1-31, 2003	April 21, 2003

May 21, 2003 June 21, 2003 Month Covered	Delivery Date for LPIS, LPOS, LPBS, LPEIS & LPVVS Data
June 1-30, 2003	July 21, 2003
July 1-31, 2003	August 21, 2003
August 1-31, 2003	September 21, 2003
September 1-30, 2003	October 21, 2003
October 1-31, 2003	November 21, 2003
November 1-30, 2003	December 21, 2003
December 1-31, 2003	January 21, 2004
January 1-31, 2004	February 21, 2004
February 1-28, 2004	March 21, 2004
March 1-31, 2004	April 21, 2004
April 1-31, 2004	May 21, 2004
May 1-31, 2004	June 21, 2004
June 1-30, 2004	July 21, 2004
July 1-31, 2004	August 21, 2004
August 1-31, 2004	September 21, 2004
September 1-30, 2004	October 21, 2004
October 1-31, 2004	November 21, 2004
November 1-30, 2004	December 21, 2004
December 1-31, 2004	January 21, 2005

Error-free SAS datasets of all of the LPIS, LPOS, LPBS, LPEIS, and LPVVS data collected during each wave shall be supplied to NMFS by modem by the 21st day following the completion of the monthly data collection. Monthly reports summarizing the results of all survey efforts shall be delivered to NMFS by the 28th day following the completion of the month of data collection.

4.3 Final Documentation

The Contractor shall provide the following to NMFS:

A. Three (3) bound copies of the bimonthly reports and a final report on the data collection procedures and results. A description of the coding and editing procedures, as well as quality control measures, must be included in each report. The reports should provide detailed presentations of the work involved to facilitate completion of the survey and the results. Both electronic and paper copies of the reports shall be delivered.

B. Three (3) copies of executive summary reports of the data collection procedures and results. Both electronic and paper copies of the executive summary reports shall be delivered.

C. Two (2) copies of the final LPIS master site register with site-specific large pelagic fishing activity estimates by boat type, month, and day type for the dockside intercept survey. One electronic copy of the final site frame with appropriate location and activity information shall be provided to NMFS as a SAS datset.
D. Two (2) copies of the final site list for the LPBS. One electronic copy of the final site frame with appropriate location and activity information shall be provided to NMFS as a SAS datset.
E. Two (2) documented copies of the software used for the random sampling of site/date interviewing assignments for the LPIS, LPBS, and LPVVS.
F. Two (2) documented copies of all software used for entry and editing of the survey data into appropriately formatted files.
G. Three (3) copies of all training manuals, data collection forms, and procedures used for the surveys. Both electronic and paper copies of all manuals, forms, and procedures shall be delivered. These should include any revisions which are made during the survey periods.

5. CONFIDENTIALITY

The data collected for the 2002-2004 Large Pelagics Surveys shall be used only for statistical purposes, and will be available in identifiable form only to NMFS and its contractors except as otherwise required by law. All requirements of the Privacy Act of 1974 (P.L. 93-579) concerning the collection and use of identifiable information for individuals shall be observed. All copies of the application forms shall be returned to the NMFS or destroyed at the COTR's direction upon completion of the survey.